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LEVEL

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DEPARTMENT OF THE ARMY

HEADQUARTERS TRAINING AND DOCTRINE COMMAND

ENVIRONMENTAL IMPACT STATEMENT

DTIC

MAR 9 1981

DISTRIBUTION STATEMENT A

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LAND USE WITHDRAWAL
MCGREGOR RANGE
FORT BLISS, TEXAS

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SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Environmental impacts associated with missile training and testing on McGregor Range are related mostly to debris recovery. Tactical air defense training for the United States Army is dependent on the continued withdrawal of McGregor Range lands. The land withdrawal limits Bureau of Land Management use for multiple use purposes in areas where military activities are concentrated; but, without the withdrawal, significant social, economic, and cultural impacts would occur. Adverse effects are continued soil erosion and disturbing vegetation and wildlife. Significant are the adverse impacts of military activities on archeological and		

(cont)
20 historical sites. There is also loss of revenue from limiting the expansion of the grazing program of the entire range.

Accession For

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Unannounced	<input type="checkbox"/>
Justification	

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Availability Codes

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ERRATA SHEETS

The following changes should be made in appropriate appendixes to the Draft Environmental Impact Statement, Land Use Withdrawal, McGregor Range, Fort Bliss, Texas.

Appendix A, Supporting Documentation.

1. Add page A-8-1a(R) thru A-8-3a(R) after page A-8-1.
2. Remove page A-8-15 and A-8-16 and insert pages A-8-15(R) and A-8-16(R).
3. Page A-8-19, 1st paragraph, next to last line: add the word "habitat" after wildlife.
4. Page A-8-19, 1st paragraph, last line: add the word "grazing" after livestock.
5. Page A-8-21, paragraph e(1), third line: add the word "habitat" after wildlife.
6. Remove pages A-13-5 and A-13-6 and insert pages A-13-5(R) and A-13-6(R).

Appendix B, Environmental Assessment of McGregor Range (New Mexico), Fort Bliss, Texas.

1. Page A-13, paragraph (6)(b), last two lines: delete the word "must" from next to last line. Substitute the words "may be" for "is" in last line.
2. Page A-23, paragraph d: delete the reference to "ferruginous owl."
3. Page A-32, table 4 under I. Birds: delete "Red-shouldered hawk." Delete "common crow," and substitute white-necked raven, corvus cryptoleucus.
4. Page A-33, table 5, under Order Strigiformes, Family Strigidae - Owls: delete "Ferruginous owl."
5. Page A-34, table 5 (cont), under Order Passeriformes - Perching Birds: delete "Wied's crested flycatcher" and "Olivaceous flycatcher."

Under Family Corvidae - Jays: delete "Mexican jay" and substitute "Scrub jay, Aphelocoma coerulescens."

Under Family Mimidae - Mockingbirds and Thrashers: delete "Catbird."

Under Family Vireonidae - Vireos: delete "Gray vireo."

6. Page C-5, tables 1 and 2. Units for suspended particulate should be $\mu\text{g}/\text{m}^3$. Since the ambient air quality standard and sampling method for suspended particulates are based on 24 hours, no 1-hour geometric mean or standard deviation were presented.

7. Page C-8, table 5. Title should be Emission Spectroscopy and Atomic Absorption Analysis.

8. Page C-12, table 8. Units for the minimum detectable concentration in footnote - should be $\mu\text{g}/\text{m}^3$.

Appendix C, Interim Report, Archeological Reconnaissance Survey,
McGregor Range, Fort Bliss, Texas.

1. Remove pages C-1 thru C-4. Insert pages C-1(R) thru C-4(R).
2. Page C-9, first paragraph, 6th line: delete words "quite possible" and substitute the word "undoubtedly."
3. Page C-17, first paragraph, last line: delete the word "economic" and substitute the word "exchange."
4. Page C-32, next to last paragraph: add "and the "Ellis Wright cabin."
5. Remove page C-41, add page C-41(R).

Appendix D

1. Table of Contents: delete 1st line under Subject. Substitute "Public Land Orders 1470 and 1547."
2. Insert pages D-1a(R) and D-1b(R) before page D-1.

Table A-8-1

ENDANGERED PLANTS

Federal List

<u>Name</u>	<u>Location</u>
<u>Rosa stellata</u>	In the lower edge of pinyon-juniper.
<u>Muhlenbergia villosa</u>	On the Otero Mesa, near the escarpment edge; may be present elsewhere on the mesa, and below on the foothills-draw-yucca-grassland ecozone.
<u>Echinocereus lloydii</u>	Probably present in the Hueco Mountains and the Otero Mesa escarpment area, on limestone.
<u>Coryphantha sneedii</u>	Probably present on limestone in the Hueco Mountains and possibly along the Otero Mesa escarpment.
<u>Silene plankii</u>	Present on igneous rocks in the south Organ Mountains and in the higher parts of the Franklin Mountains. This plant may exist on igneous rocks in portions of the Huecos, and possibly along the Sacramento escarpment.
<u>Opuntia arenaria</u>	Preferred habitat is the coppice dune areas of the Tularosa Valley. This plant may exist on McGregor Range in the sand dune mesquite ecozone.
<u>Argemone pleiacantha</u> <u>pinnatisecta</u>	Known in the high canyons of the Sacramento Mountains; only a remote chance of its existence on the Forest Service portion of McGregor Range.
<u>Astragalus altus</u>	Known from the Sacramento Mountains, highly local distribution, exists in good ponderosa pine habitat. Probably not present, as there are only a few scattered ponderosa on McGregor.
<u>Limonium limbatum</u>	Preferred habitat are areas of alkaline soil that receive run-off, such as gypsiferous playa sediments. Present on White Sands. The only areas of gypsiferous soil on McGregor Range are located in the northwesternmost few square miles (site of old Sacramento City) and this area receives no run-off; not probable.

A-8-1a(R)

Table A-8-1 (Continued)

<u>Name</u>	<u>Location</u>
<u>Perityle staurophylla</u>	Known from limestone cliffs in the Sacramentos, including the escarpment area. Present in Dog Canyon, approximately 4.4 miles north of McGregor Range boundary. It has not been located south of Dog Canyon, although it is possible it enters the range along the Sacramento escarpment.

ENDANGERED WILDLIFE

New Mexico State List

<u>Crotalis lepidus</u> (mottled rock rattlesnake)	Present in the vicinity of Hueco Tanks State Park, 4-5 miles south of McGregor boundary. Frequents rocky areas, arroyos, and grassland. Likely to be present in the Hueco Mountains of McGregor Range, perhaps onto the Otero Mesa and grasslands below the Mesa.
<u>Crotalis scutulatus</u> (Mojave rattlesnake)	Also present in the vicinity of Hueco Tanks, and likely to be present in the Hueco Mountains on McGregor Range.
<u>Elaphe subocularis</u> (Trans-Pecos rat snake)	Common in the Franklin and Hueco Mountains (including Hueco Tanks area). Probable in the arroyos in the Huecos, the large draws and rocky areas below Otero Mesa, possibly from the alluvial fan-creosote zone to foothills-draw-yucca-grassland zone.
<u>Falco femoralis</u> (Aplomado falcon)	Not sighted on or near McGregor; may be extirpated from the state; not seen in New Mexico since 1963. Very doubtful on McGregor.
<u>Ictinia mississippiensis</u> (Mississippi kite)	The Mississippi kite may be an occasional wanderer into McGregor, but has not yet been recorded.
<u>Cynomys ludovicianus arizonensis</u> (black-tailed prairie dog)	Present on Otero Mesa on McGregor in several small towns of perhaps 25-30 individuals.

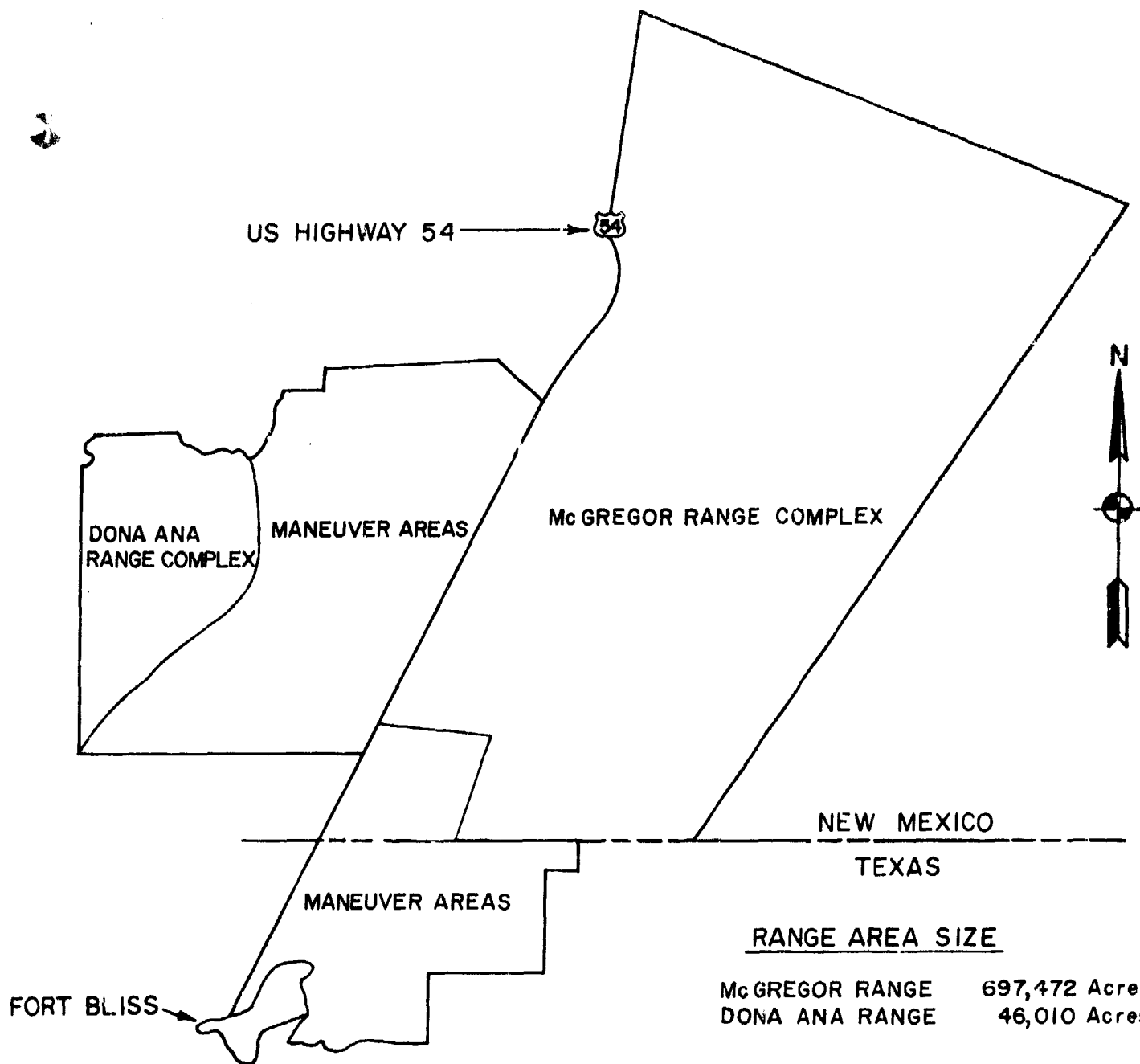
Table A-8-1 (Continued)

ENDANGERED WILDLIFE

Federal List

<u>Name</u>	<u>Location</u>
<u>Anas diazi</u> (Mexican duck)	Sighted on oxidation ponds three miles south of McGregor Range boundary; may be occasional visitor to earthen cattle water tanks on the range.
<u>Falco peregrinus</u> (Peregrine falcon)	Observed once in the Organ Mountains, 30 miles west of McGregor. May be present along the Sacramento and Hueco escarpments and canyons.
<u>Canis lupus</u> (gray wolf)	A questionable sighting of two wolves was made by two Army biologists in 1975 upon the Otero Mesa portion of McGregor. It is unknown at present whether wolves utilize areas of McGregor.
<u>Mustela nigripes</u> (black-footed ferret)	Not yet found on McGregor, although in-depth surveys have not been conducted near prairie dog towns.

SOURCES: Republished list, Federal Register, Vol. 41, No. 208, part IV, 27 Oct 1976, and Annotated list of State Endangered Species, State of New Mexico, Department of Game and Fish, 12 April 1976.



MISSILE AND GUNNERY RANGE

The McGregor Range Planning Unit is a Special Cooperative Management Unit between the Department of the Interior and the Department of the Army.

In 1957, McGregor Range was withdrawn by the Department of the Army as a missile testing range. Public Land Order No. 1470 of 21 August 1957 withdrew all the lands in the McGregor Range for use by the Army. This withdrawal limited the land use to only military purposes by the US Air Defense Center, Fort Bliss, Texas, as a missile testing range. All other uses of the range, including livestock grazing, were eliminated. In 1966, a Memorandum of Understanding between the Department of the Interior and the Department of the Army was approved which provided for co-use grazing on McGregor Range. In 1967, a Cooperative Plan Agreement for conservation and protection of fish and wildlife resources was approved. This agreement provided that the Bureau of Land Management (BLM) will exercise the authority of the Secretary of the Interior under Public Law 86-797 (Sikes Act) for wildlife habitat management on McGregor Range. BLM is responsible for livestock grazing, maintenance of range improvements, and wildlife habitat on McGregor Range. All other uses are restricted due to the military withdrawal.

The entire acreage of McGregor Range is 697,474 acres. The acreage provided by the Memorandum of Understanding for co-use grazing is 515,000 acres (of the total, 246,000 acres are presently grazed) and includes lands as follows:

Withdrawn public domain	463,000 acres
Acquired nonpublic lands	52,000 acres
Total	515,000 acres

Because of the military withdrawal, entry to the range is restricted. Only persons with range passes issued by the Fort Bliss provost marshal are authorized to be on the range. A pass is not required to travel State Highway 506 which crosses the range; however, all travel is restricted on the road during periods when missiles are being fired. A military guard is posted at each of the three main entrances to the range to halt traffic during periods of missile firings.

Land uses surrounding McGregor Range consist mainly of public domain land administered by BLM and private land used for ranching. The Texas-New Mexico State line forms the southern boundary of the range. The eastern boundary consists of BLM lands and private ranches. The northern boundary is comprised of BLM land, Lincoln National Forest, and private ranches. To the west, McGregor Range is bordered by BLM land, Fort Bliss missile and gunnery ranges, and White Sands Missile Range.

c. Biggs Army Airfield. On 21 October 1966, Biggs Field was transferred from the Department of the Air Force to the Department of

I. INTRODUCTION

The purpose of this present report is to summarize the results of a wide-ranging reconnaissance of the cultural (prehistoric and historic) resources of McGregor Guided Missile Range, Otero County, New Mexico. It is intended to briefly define the nature and purpose of this original on-site investigation; to characterize the current state of archeological knowledge with respect to the region and to the immediate area of concern; to summarize some of the more pertinent information on the observed cultural resources obtained during this work; and to provide opinions on the scientific and historical significance of these resources. Lastly, it provides an estimate of the impact of on-going military activities on the known resource base and offers recommendations for mitigating predictable adverse effects. It is emphasized that this interim report represents only a summation of certain of the purely archeological and historical results of this study. A final report will contain detailed data, including specialists' reports on the geomorphology and geochronology of the area plus other substantive information.

Study Goals and Procedures for Cultural Resource Identification and Evaluation

The reconnaissance of McGregor Guided Missile Range was initiated and carried out with three basic goals in mind. First, it was to provide a preliminary inventory of broad areas within the limits of the Range (Figure 1). Secondly, identified resources were to be evaluated in terms of their potential for yielding important scientific and historic information--specifically in terms of criteria necessary for nomination to the National Registry of Historic Places. The third basic goal was to generate sufficient data to knowledgeably judge the effects of missile firing as an aerial land use and Army maneuvers as a ground use of the Range. It should be stressed here that these goals are paramount; the aim is not to implement an interpretive study by exploiting the resources of this property but rather to attempt an assessment of their potential for yielding information "important in history or prehistory". The additional task of measuring the impact of military activities of identifiable resources did, in fact, have a real effect on the design of the study.

The investigation was initiated by a review of existing archeological and historical literature pertaining to the area. This review quickly demonstrated the fact that little work had been reported from investigations on the study area proper (see "A Summary of the Archeological and Historical Background"). Prior to direct observations on the Range, an historian attached to the study team evaluated pertinent archival records at repositories in Santa Fe and Albuquerque.

Fieldwork associated with the project began in June, 1975. The basic, most extensive, observations were carried out over a 17 week period ending in October. Subsequent work was accomplished in November and December (primarily limited subsurface testing and additional surface observations). To date, a total of about 21 weeks have been spent in direct fieldwork. Currently, final field observations are being implemented in selected areas where we have reason to doubt the completeness of originally assumed coverage. This additional work cannot be expected to substantially modify any important conclusions presented here, however.

The basic field survey crew in the summer and fall of 1975 consisted of the field supervisor, three crew leaders, a usual compliment of seventeen field and laboratory crew members and a laboratory supervisor. Additionally, the survey team included a botanist, a field geologist and an historian. Visits to the study area were made by the project director and geological consultant during the course of the field study. An excellent living and laboratory facility was made available by the Army south of McGregor Range Headquarters.

In brief, the field study of McGregor Range can be described in three phases. Phase I was exploratory in nature and included four major lines of inquiry:

1. A primary survey effort consisting of widely dispersed spot checking by independently operating, small teams. This effort was intended to provide preliminary archeological information and logistical input.
2. Wide ranging geological and botanical observations were carried out by specialists.
3. Field crews familiarized themselves with the field conditions and nature of archeological remains and tested the accuracy of existing maps.

4. An aerial survey of the Range was made via helicopter flights provided by the Commander, Fort Bliss. Both high and low level aerial observation and photography was found to be very useful as an aid to archeological site location and for geological observation.

This phase lasted one month and provided highly useful preliminary data, particularly for planning purposes.

Phase II supplemented the widely dispersed, spot checking of the preceding stage with intensive, on foot area-specific examination of a cross-section of the study area considered representative. Six large (100,000 sq. meter) "priority areas" were defined on the basis of physiographic, ecological, and soil zones identified during Phase I. Priority areas were located to coincide with examples of all major physiographic and defined ecozones found in the study area, and where possible to provide examples of various forms of military activity (i.e., missile drop zones, maneuver areas, artillery fans, field exercise areas, etc.). An effort was made to visually examine all of the area inside each priority area on foot. Allowing for lapses of coverage due to human error, inaccessability, and conflicts with previously scheduled military activity, an estimated 80 to 90% of the surface of each priority area was examined. The total area of intensive coverage made on this basis is estimated at 19% of the total study area.

This intensive reconnaissance within the priority areas was coupled with additional, widely dispersed, spot coverage.

The placement of the "priority areas" of intensive inspection and their identifying numbers are shown on Figure 1. This small scale map also shows their general relationship with major physiographic zones existing on the Range (Tularosa Valley, Hueco Mountains, Otero Mesa and Sacramento Mountains) and with areas of two forms of current definable military activity: missile drop zones and artillery firing arcs. Areas of documented spot checking outside the priority areas are also closely approximated.

Figure 2 illustrates the distribution of vegetative zones defined by Wyatt's 1975 ecological study. The separation of these zones is slightly modified here as a result of field observations made by our survey. The relationship of the priority area placement in regard to Wyatt's defined biomes can be visualized by comparing Figures 1 and 2.

FIGURE 1.

Map of McGregor Range illustrating the areal extent of survey coverage.

- g. Perform survey and mitigation in areas to be affected by ground disturbing construction, maintenance, changes on missile impact zones, or the development of new firing fans.
- h. Retain a post archeologist to coordinate and develop an incremental intensive inventory, evaluation, and mitigation program designed to provide the degree of cultural resource management required by Federal regulations.
- i. Limit the surface use of McGregor Range by armoured vehicles to existing maneuver areas south of McGregor Range Camp.
- j. Cease joint training exercises requiring the use of the basin lowlands north of McGregor Range Camp.

Implementation of this alternative will result in the least destruction of the prehistoric and historic cultural resource base. Alternative 1 is hereby defined as the recommended mitigation.

Alternative 2: Use of McGregor Range for Air Defense Training and Surface Maneuvers: Site Avoidance

- a. Implement all measures called for in Alternative 1 except i. and j., restriction of armoured vehicle use.
- b. Define specific archeological and historic sites to be avoided, on the basis of the existing reconnaissance survey data.
- c. Define specific archeological sites to be excavated or intensively collected in areas not to be avoided, on the basis of the existing reconnaissance survey data.
- d. Initially restrict heavy vehicle use to existing maneuver areas south of McGregor Range Camp. Gradually expand the available maneuver space northward as incremental intensive inventories and mitigation is completed in portions of the basin lowlands to be affected.

Implementation of this alternative would result in a severe adverse impact on the discovered cultural resources

for the following reasons: (1) at present insufficient data exists to determine in all cases which sites require complete avoidance and which require only intensive collection etc.; (2) during maneuvers orientation and navigation in the desert lowlands is very difficult; (3) unintentional destruction of archeological and historic sites scheduled for avoidance will almost certainly occur; (4) large scale destabilization of soils and concomittant maneuver related erosion of areas adjacent to significant archeological sites will have unavoidable adverse effects on sites scheduled for avoidance.

Alternative 3: Use of McGregor Range for Air Defense Training and Surface Maneuvers. District Avoidance

- a. Implement all measures called for in Alternative 1 except i. and j. restriction of armoured vehicle use.
- b. Define specific archeological or historic areas or districts to be avoided, on the basis of the existing reconnaissance survey data.
- c. Supplement the existing reconnaissance survey data with information gathered during intensive incremental inventory work specified in Alternative 1-h. and Alternative 2-d. Define representative archeological or historic areas on districts on the basis of the subsequent study, for complete avoidance by surface maneuvers.
- d. Retain the defined archeological and historic areas on districts for future scientific research purposes.

Implementation of this alternative will result in unavoidable adverse effects on the discovered archeological and historic resources for the following reasons: (1) Insufficient data at present does not allow large portions of the desert lowlands not examined during the reconnaissance survey to be disregarded as insignificant in definition of avoidance districts; (2) orientation and navigation problems during large maneuvers will almost certainly result in unintentional destruction of cultural sites scheduled for avoidance; (3) the destructive effects of large scale soil destabilization and maneuver related erosion in areas adjacent to avoidance districts will have unavoidable adverse effects on sites scheduled for avoidance.

PUBLIC LAND ORDER 1547
New Mexico 017802
New Mexico

WITHDRAWING LANDS FOR USE OF DEPARTMENT OF THE ARMY IN CONNECTION
WITH MCGREGOR RANGE (FORT BLISS): CORRECTING PUBLIC LAND ORDER NO. 1470
OF AUGUST 21, 1957.

By virtue of the authority vested in the President and pursuant
to Executive Order No. 10355 of May 26, 1952, it is ordered as follows:

1. Subject to valid existing rights, the provisions of existing
withdrawals, and to the stipulations contained in Public Land Order
No. 1470 of August 21, 1957, the following-described lands in New Mexico
Inadvertently omitted from that order, are hereby withdrawn from all
forms of appropriation under the public land laws, including the mining
and mineral leasing laws, and reserved for use of the Department of the
Army as part of the missile testing range established by Public Land
Order No. 1470:

New Mexico Principal Meridian

Township 26 South, Range 6 E.,

Sec. 26, S $\frac{1}{2}$ SE $\frac{1}{4}$;

Sec. 35, N $\frac{1}{2}$ NE $\frac{1}{4}$.

Township 19 South, Range 10 E.,

Sec. 1, S $\frac{1}{2}$;

Sec. 8, SW $\frac{1}{4}$ SW $\frac{1}{4}$.

Township 20 South, Range 12 E.,

Sec. 7, NW $\frac{1}{4}$ NW $\frac{1}{4}$

Township 22 South, Range 13 E.,

Sec. 31, Lots 1, 2, 3, E $\frac{1}{2}$ NW $\frac{1}{4}$, NE $\frac{1}{4}$ SW $\frac{1}{4}$

NE $\frac{1}{4}$ and N $\frac{1}{2}$ SE $\frac{1}{4}$

The areas described aggregate 906.76 acres.

2. In Public Land Order No. 1470 of August 21, 1957, appearing as
F. R. Doc. 57-7002 of the Issue for August 29, 1957, at Pages 6968 to 6972, the
following corrections are made:

(a) In T. 22 S., R. 8 E. (Page 6968, 3d Column) change
"SE $\frac{1}{4}$ SE $\frac{1}{4}$ " after Sec. 26 to read "SE $\frac{1}{4}$ NE $\frac{1}{4}$."

(b) In T. 23 S., R. 10 E. (Page 6969, 1st Column) change
"secs 17 and 19" to read "Secs. 17 and 18."

(c) In T. 23 S., R. 10 E. (Page 6969, 1st Column) change
"SW $\frac{1}{4}$ NE $\frac{1}{4}$ " in sec. 19 to read "SW $\frac{1}{4}$ NE $\frac{1}{4}$."

(d) In T. 26 S., R. 7 E. (Page 6969, 3d Column) change
"SE $\frac{1}{4}$ " in sec. 3 to "SE $\frac{1}{4}$."

(e) In T. 23 S., R. 11 E. (Page 6969, 1st Column) change "sec. 32" to read "sec. 35."

(f) In T. 26 S., R. 9 E. (Page 6969, 3d Column) after sec. 1, change "SE $\frac{1}{4}$ SE $\frac{1}{4}$ " to read SW $\frac{1}{4}$ SE $\frac{1}{4}$."

(g) In T. 25 S. R. 8 E. (Page 6970, 3d Column) after sec. 6, change "S $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ " to read "S $\frac{1}{4}$ NE $\frac{1}{4}$ and SE $\frac{1}{4}$."

ROGER C. ERNST,
Assistant Secretary of the Interior.

November 7, 1957.

(F. R. Doc. 57-9382; Filed, Nov. 13, 1957; 8:46 a.m.

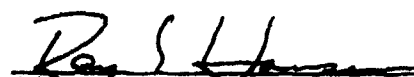
DEPARTMENT OF THE ARMY
HEADQUARTERS, TRAINING AND DOCTRINE COMMAND

FINAL ENVIRONMENTAL IMPACT STATEMENT

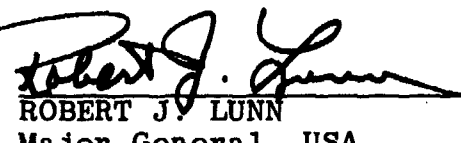
LAND USE WITHDRAWAL, MCGREGOR RANGE
FORT BLISS, TEXAS

AUGUST 1977


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Chief of Staff
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Fort Monroe, Virginia

Approved by:

Summary

FINAL ENVIRONMENTAL IMPACT STATEMENT LAND USE WITHDRAWAL, MCGREGOR RANGE

() Draft (X) Final Environmental Impact Statement

Responsible Office: Commander, US Army Air Defense Center
and Fort Bliss, Fort Bliss, Texas

1. Name of Action: () Administrative (X) Legislative

2. Description of the Action: The Land Withdrawal which allows the Fort Bliss Military Reservation to utilize the lands that comprise McGregor Range will terminate at midnight, 20 August 1977. However, the Department of the Army has determined that the lands are necessary to meet the continuing needs of the United States Army, therefore, desires to extend the withdrawal for an initial 15-year period, followed by two 10-year periods, subject to periodic review by the Department of the Army, the Department of the Interior, and the Department of Agriculture.

3. Summary of Impacts:

a. Environmental Impacts. Environmental impacts associated with missile training and testing on McGregor Range are minor, and are related mostly to debris recovery. The military use of tracked and wheeled vehicles on the range can cause soil erosion and disturb vegetation and wildlife. However, tracked and wheeled vehicles for military maneuver use will be excluded only from Otero Mesa and Forest Service lands where impacts could be most severe. Low flying aircraft noise may also affect wildlife. Fort Bliss, El Paso, and local communities near McGregor Range are impacted by the continued existence of the range to support the air defense mission of the installation. Without the withdrawal, significant social, economical, and cultural impacts would occur. The land withdrawal limits Bureau of Land Management use of McGregor Range lands for multiple use purposes in the areas where military activities are concentrated. Tactical air defense training for the United States Army is dependent on the continued withdrawal of McGregor Range lands.

b. Adverse Environmental Effects. Adverse environmental effects of renewing the land withdrawal include continued effects on soil erosion and disturbance of vegetation and wildlife habitat on the range. Of more significance are the potential adverse impacts of military activities on archeological and historical sites that were found on the range as a result of the archeological survey performed

by the Texas Archeological Survey, University of Texas, Austin. An adverse effect is the limitation on expansion of the Bureau of Land Management grazing program to cover the entire range, and the loss of revenue from that activity. Renewal of the withdrawal will defer the adverse effects of loss to the US Army of their air defense center range facility.

4. Alternatives Considered:

- a. No action - letting the withdrawal lapse.
- b. Using White Sands Missile Range for the activities on McGregor Range.
- c. Locating a range for missile firing and surface maneuvers elsewhere.
- d. Renew the withdrawal as presently exists with BLM and Forest Service cooperative management.
- e. Renew the withdrawal with Army managing all land uses on McGregor Range.
- f. Renew the withdrawal with Army gaining rights to maneuver over entire range.
- g. Renew the withdrawal without Forest Service lands.
- h. Air defense missile use of McGregor Range with no surface uses.
- i. Renew the withdrawal with Army surface uses restricted from all sloping areas of the range.
- j. Renew the withdrawal with Army surface uses restricted from portions of sloping areas of the range.

5. Federal, State, local agencies, and individuals provided copies for information and (or) comments:

Honorable John A. Busterud, Chairman, Council on Environmental Quality, Washington, DC
Office of Federal Activities, Environmental Protection Agency, Washington, DC
Regional Administrator, XI, US Environmental Protection Agency, Dallas, TX
Office of the Secretary, ATTN: Coordinator Environmental Quality Activities, US Department of Agriculture, Washington, DC
Office of the Deputy Assistant Secretary for Environmental Affairs, US Department of Commerce, Washington, DC
Director, Office of Environmental Project Review, Department of the Interior, Washington, DC

Branch of Land Resources, Code 321, Department of the Interior,
 Washington, DC
 State Director, Bureau of Land Management, Santa Fe, NM
 Regional Forester, Region III, Albuquerque, NM
 New Mexico State University, Las Cruces, NM
 Office of the Assistant Secretary for Environment, Safety, and
 Consumer Affairs, Department of Transportation, Washington, DC
 Office of Architectural and Environmental Protection, Advisory
 Council on Historic Preservation, Washington, DC
 Honorable Richard C. White, US Representative, Washington, DC
 Honorable Lloyd Bentsen, US Senator, Washington, DC
 Honorable John Tower, US Senator, Washington, DC
 Honorable Harold Runnels, US Representative, Washington, DC
 Honorable Pete V. Dominici, US Senator, Washington, DC
 Honorable Harrison Schmitt, US Senator, Washington, DC
 Honorable Dolph Briscoe, Texas Governor, Austin, TX
 Honorable Jerry Apodaca, New Mexico Governor, Santa Fe, NM
 State Planning Officer, State of New Mexico, Santa Fe, NM
 State Engineer, State of New Mexico, Santa Fe, NM
 Department of Game and Fish, State of New Mexico, Santa Fe, NM
 Environmental Improvement Agency, State of New Mexico, Santa Fe, NM
 State Historic Preservation Officer, State of New Mexico, Santa
 Fe, NM
 State Highway Engineer, New Mexico State Highway Department,
 Santa Fe, NM
 Governor's Wilderness Commission, Santa Fe, NM
 Southeastern New Mexico Economic Development District, Roswell, NM
 Central Clearing House, Santa Fe, NM
 County Clerk, Otero County, Alamogordo, NM
 The Rio Grande Chapter of the Sierra Club, Santa Fe, NM
 Conservation Chairman, New Mexico Ornithological Society, Santa
 Fe, NM
 New Mexico Wildlife Federation, Albuquerque, NM
 Division of Planning Coordination, Office of the Governor,
 Austin, TX
 Director, Parks and Wildlife Department, Austin, TX
 District Office, Texas State Highway Department, El Paso, TX
 El Paso Chamber of Commerce, El Paso, TX
 Mr. Truett Latimer, Texas Historical Commission, Austin, TX
 Sierra Club of El Paso, El Paso, TX
 President, Texas Archaeological Society, San Antonio, TX
 Dr. David S. Dibble, Texas Archaeological Survey, Austin, TX
 Director, El Paso Centennial Museum, El Paso, TX
 West Texas Council of Governments, El Paso, TX
 Director, Parks and Wildlife Department, El Paso, TX
 Honorable Don Henderson, Mayor of El Paso, El Paso, TX
 County Clerk, El Paso County, El Paso, TX
 Board of County Commissioners, El Paso County, El Paso, TX
 Director of Public Works, El Paso, TX
 El Paso Archaeological Society, c/o Jack Hedrick, El Paso, TX
 Audubon Society of El Paso, El Paso, TX

Dr. Edward S. Evans, US Army Environmental Hygiene Agency,
 Aberdeen Proving Grounds, MD
 Dr. W. A. Dick-Peddie, New Mexico State University, Department
 of Biology, Las Cruces, NM
 Mr. William D. Hurst, Society for Range Management, Albuquerque, NM
 Mr. Thomas W. Merlan, State Historic Preservation Officer, Santa
 Fe, NM
 Mr. William S. Huey, New Mexico Department of Game and Fish, Santa
 Fe, NM
 Mr. James Schoenwetter, Arizona State University, Tempe, AZ
 Mr. John T. Koen, US Department of Agriculture, Forest Service,
 Region 3, Albuquerque, NM
 Mr. Patrick H. Beckett, COAS Publishing and Research, Las
 Cruces, NM
 Mr. Jack Hedrick, El Paso, TX
 Mr. Dave Foreman, Southwest Representative, The Wilderness
 Society, Glenwood, NM
 Mr. Les Davis, Texas Archeology Society, El Paso, TX
 Mr. Gary Mick, Prairie Dawg Club, Alamogordo, NM
 Mr. Wesley Leonard, Sierra Club, El Paso, TX
 Mr. H. Paul Friesema, Northwestern University, Evanston, IL
 Mr. B. A. Allen, Mayhill, NM
 Dr. Rex E. Gerald, El Paso Centennial Museum, El Paso, TX
 Dr. Mark A. Grady, Southern Methodist University, Dallas, TX
 Mr. M. A. Wiser, President, Otero County Wildlife Federation,
 Alamogordo, NM
 Hammer, Siler, George Associates, Washington, DC
 Mr. Wayne M. Kuhn, Department of the Interior, Santa Fe, NM
 Mr. Daniel Rathbun, District Manager, Bureau of Land Management,
 Las Cruces, NM
 Mr. Stanley E. Green, La Luz, NM
 Mr. James R. Abbott, Forest Supervisor, Lincoln National Forest,
 Alamogordo, NM
 Mr. Richard Jourdan, Acting Forest Supervisor, Lincoln National
 Forest, Alamogordo, NM
 Mr. Bruce Blanchard, US Department of the Interior, Washington, DC
 Mr. Dale Nelson, Fort Richardson, AK

6. Draft Statement to CEQ: 27 January 1977 - noticed in Federal Register 1 February 1977.
7. Final Statement to CEQ:

FINAL ENVIRONMENTAL IMPACT STATEMENT
LAND USE WITHDRAWAL, MCGREGOR RANGE
FORT BLISS, TEXAS

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APPENDIX X

COORDINATION, COMMENT AND RESPONSE

STATEMENT FOR SUPPORTING DATA

Technical support for summary statements made in the body of this Environmental Impact Statement can be found in appendixes A, B, C, and D to the draft document.

INTRODUCTION AND ENVIRONMENTAL SETTING



FINAL ENVIRONMENTAL IMPACT STATEMENT
LAND USE WITHDRAWAL, MCGREGOR RANGE
FORT BLISS, TEXAS

SECTION 1 - INTRODUCTION AND ENVIRONMENTAL SETTING

1.01 Description of Withdrawal.

a. Purpose of the Action. The lands which comprise McGregor Range were withdrawn from public domain for a 10-year period by Public Land Order (PLO) No. 1470 dated 21 August 1957, as amended by PLO No. 1547 dated 7 November 1957, for an artillery and missile firing range. The order further provided for the continued use of the lands by the Department of the Army for an additional 10 years if the Department of the Interior were notified of a continuing military requirement and need for the use of the lands. The present effective withdrawal period will terminate at midnight, 20 August 1977. However, the Department of the Army has determined that the lands are necessary to meet the continuing needs of the United States Army and, therefore, desires to extend the withdrawal through new legislation.

b. Description of the Action. The proposed action involves the withdrawal of approximately 626,389 acres of public domain lands located in southern New Mexico for use by the Department of the Army, Fort Bliss, for training areas for artillery, missile firing, tactical training, maneuvering, air support, and such other and further uses that are not inconsistent therewith. The basic proposal for use of the aforementioned public domain lands should be considered in connection with several documents included within this environmental impact statement, to include the draft proposed legislation, management programs, and existing cooperative agreements and proposed revisions thereto. These documents may be found in the appendixes to this statement, and they are considered to be a portion of the mitigating measures to the basic proposal. Existing military missions and activities contained in section 1.02 which are projected to continue also constitute a portion of the proposed action.

(1) Procedures. The Engle Act, Public Law 85-337, 28 February 1958, and applicable provisions of the Federal Land Policy and Management Act of 1976, Public Law 94-579 dated 21 October 1976, describe the procedures which must be followed by any Federal agency to apply for the withdrawal, reservation, or restriction of lands or water areas owned or controlled by the United States for the use or benefit of the agency or instrumentality they represent. The Department of Defense may apply for withdrawal for defense purposes of public lands and waters of the United States and Federal lands and waters of the outer environmental shelf. For withdrawals, reservations, or restrictions of more than 5,000 acres for defense purposes, Congressional approval is required.

(2) Location. McGregor Range lies to the northeast of El Paso, Texas in Otero County, New Mexico. It is bounded on the west by US Highway 54 and the White Sands Missile Range, and on the north by Lincoln National Forest (plates I-1, I-2). The southern boundary of the range follows the Texas-New Mexico border, and on the east are public domain lands and private ranchlands. The range extends about 43 miles from the New Mexico State line and is approximately 29 miles in width at its widest point. Acreage figures for the various agencies and lands in McGregor Range they administer are shown in table I-1.

(3) Proposed Legislation. Under the provisions of the Engle Act, Public Law 85-338, dated 28 February 1958, and any applicable provisions of the Federal Land Policy and Management Act of 1976, Public Law 94-579, dated 21 October 1976, legislation proposed for this land withdrawal is as follows. (Legislation prepared by the Department of the Interior will be substituted when finalized.)

"1. Subject to valid existing rights and the provisions of existing withdrawals, the following-described public lands in New Mexico are hereby withdrawn from all forms of appropriation under the public-land laws, including the mining and mineral-leasing laws, except as hereinafter indicated, and reserved for use by the Department of the Army for a training area for artillery, missile firing, tactical training, maneuvering, air support and such other and further uses that are not inconsistent therewith:

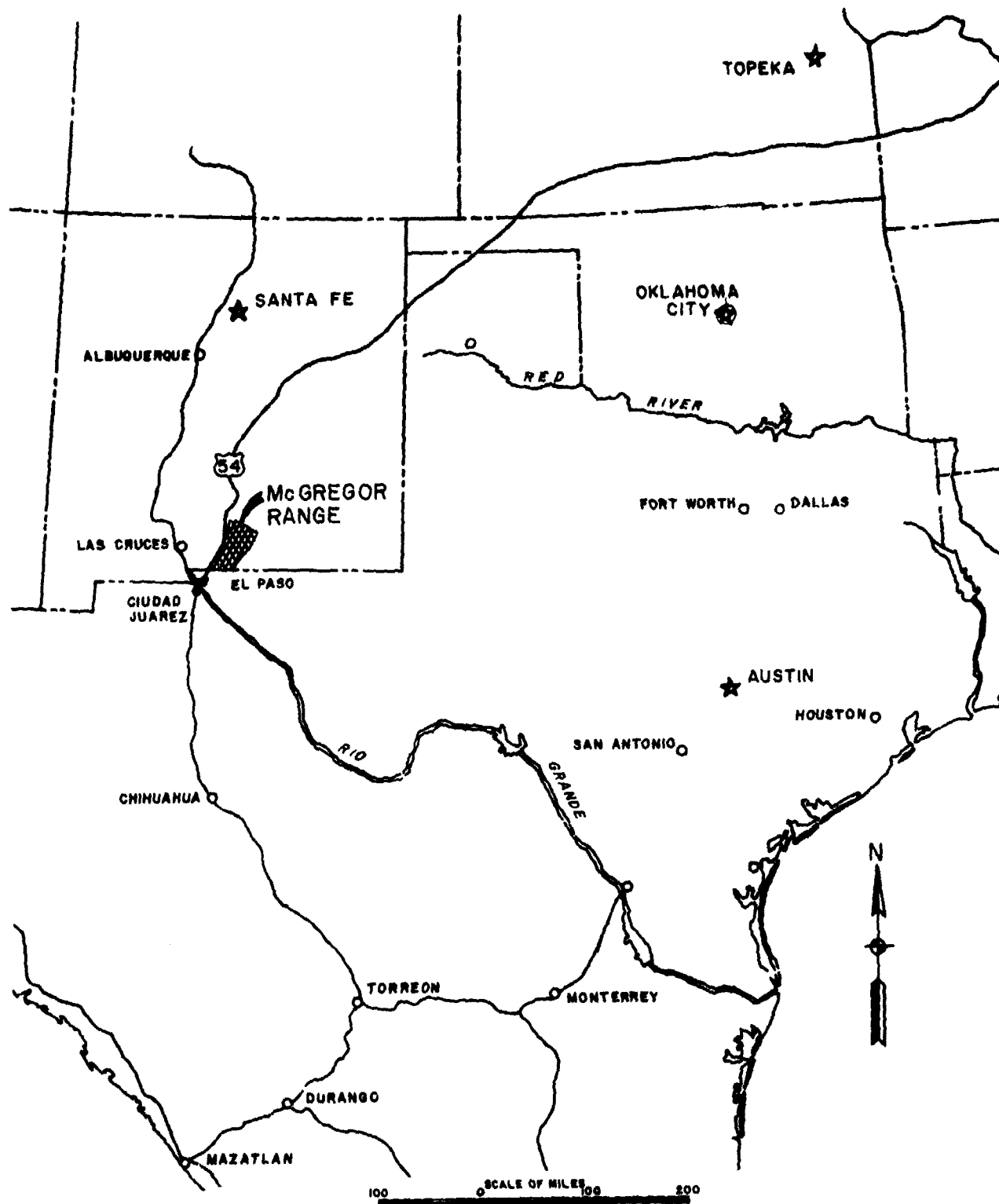
(The lands described will be as they appear in the existing Public Land Order included in appendix D, paragraphs 2. and 3.)

4. The jurisdiction granted by this order is subject to the following conditions:

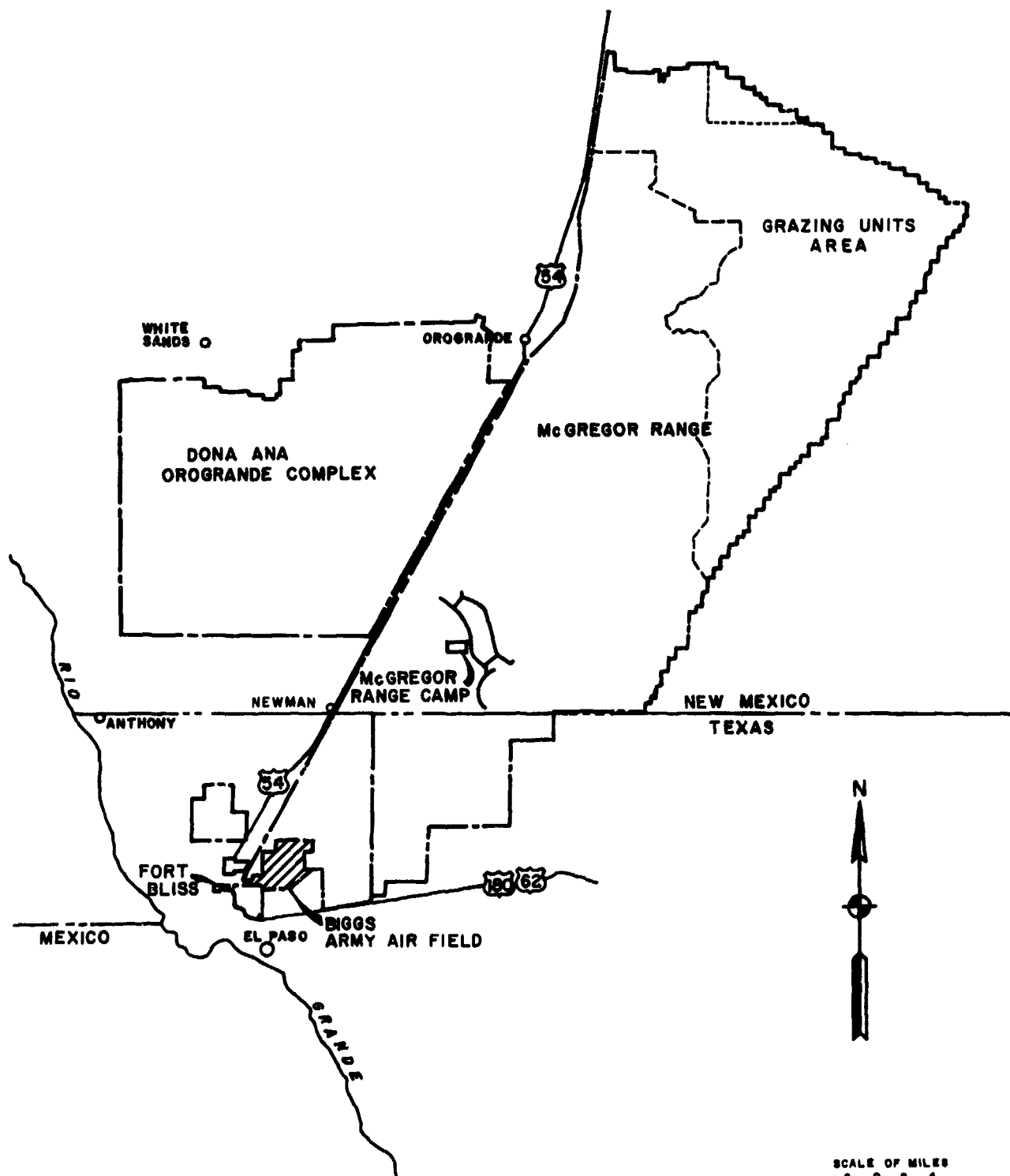
(a) That all minerals, including oil and gas, in the lands shall remain under jurisdiction of the Department of the Interior, and no disposition of, or exploration for such minerals shall be made except under the applicable mining and mineral leasing laws, and then only after such modifications of the provisions of this order, with concurrence of the Department of the Army; as may be necessary to permit such disposition. Management of minerals over withdrawn lands shall be pursuant to a Memorandum of Understanding between Department of the Army and Department of the Interior, Bureau of Land Management.

(b) The general public shall enjoy the same rights to hunt, fish or trap on the lands as may be afforded to military personnel, their dependents or employees of the Department of Defense. The privilege of hunting, fishing or trapping on the lands shall be in accordance with the provisions of section 4 of the Act of 28 February 1958, 72 Stat. 29, 10 U.S.C. Section 2671 (1969).

(c) The Department of the Army shall control access into and across the areas included within this public land withdrawal as determined by the Commander of the using installation and posted in conspicuous areas.



GENERAL LOCATION



INSTALLATION LAYOUT

Table I-1

Lands Administered by Agencies on McGregor Range

<u>Land Category</u>	<u>Acreage</u>
Public domain	608,384.87
Forest Service land	<u>18,004.06</u>
Total withdrawal	626,388.93
Army fee owned lands	
McGregor Range area	71,083.28
Lincoln National Forest area	<u>1,360.00</u>
Total Army fee	72,443.28
Total acreage	697,474.21

(d) Grazing use of the lands, under the Material Sales Act, as determined by the commander of the using installation, to be compatible with the then current military usage, is to be administered by the Bureau of Land Management in accordance with a co-use agreement between DOA and BLM. Wildlife management over the withdrawn lands, to include wildlife habitat and game management, will be administered in accordance with Memorandum of Understanding between the Bureau of Land Management, Fish and Wildlife Service, the Department of Game and Fish of New Mexico, and the Commander of the using installation.

(e) The Department of the Army shall take all necessary precautions to prevent and suppress brush and range fires occurring within the withdrawn lands or outside such lands when resulting from military use. The Department of the Army will enter into an agreement with the Bureau of Land Management and National Forest Service, as applicable, to delineate the responsibilities of such fire prevention, suppression and funding.

(f) Personnel of the New Mexico Department of Fish and Game, the Bureau of Land Management, Fish and Wildlife Service, and the National Forest Service shall have access to the land at such times as may be mutually agreed upon with the commander of the using installation for the purpose of conducting investigations and programs relating to predatory animals, enforcement of the game laws and provision for game habitat requirements, and related land management, such activities to be the subject of a Memorandum of Understanding.

(g) Personnel of the Bureau of Land Management or National Forest Service shall have access to and across the lands, when necessary, and at appropriate times not inconsistent with military requirements, in connection with administration of adjacent public lands, and the Department of the Army shall designate such times as the necessities therefore arise.

(h) The withdrawal made by this legislation shall not extend to any non-navigable waters in or upon the lands. Any such waters not heretofore appropriated shall continue subject to appropriation, as may be authorized by applicable law. The Department of the Army shall not appropriate any of such waters except under applicable State law.

(i) The Department of the Army shall prohibit any unnecessary forms of vehicular traffic in those areas under grazing pursuant to the Material Sales Act and in that area under administration of the National Forest Service.

(j) The BLM recognizes and will comply with all cultural resource statutes and regulations for all BLM initiated or participating projects, wherever situated. The DOA recognizes and will comply with all cultural resource statutes and regulations for all DOA initiated or participating projects, wherever situated. Additionally, the BLM

will have primary cultural resource management responsibility over Otero Mesa and other grazing areas. The DOA will retain primary cultural resource management responsibility over all other withdrawn lands, with the exception of National Forest lands which shall be managed by the Forest Service.

5. The jurisdiction of the Department of the Army over, and its use of the lands described in the Withdrawal shall run for a term of fifteen (15) years from the date of this withdrawal; provided that unless the Secretary of the Army shall give notice of termination by six (6) months notice in writing, this withdrawal shall remain in force for up to two additional terms of ten (10) years each. During the initial fifteen (15) year term the Department of the Army will provide statements of justification for continued utilization to the Department of the Interior for ultimate presentation to Congress during the seventh (7th) and fourteenth (14th) years of such term. In the event additional terms of withdrawal are used, the Department of the Army will provide a statement of justification for continued utilization to the Department of the Interior for presentation to Congress at least one (1) year prior to the expiration of such term. If and when the Department of the Army relinquishes jurisdiction over these lands to the Department of the Interior or to any other department or agency of the Federal Government according to their respective interests then of record, the Department of the Army will certify that the lands have been decontaminated of unexploded ordnance or other objects or materials potentially dangerous to users of the land, or in lieu of such certification shall make appropriate recommendations as to future usage consistent with public safety and health.

6. The Forest Service, United States Department of Agriculture, will retain administrative jurisdiction over the public lands within the Lincoln National Forest, which are withdrawn by this Public Land Legislation to be administered in accordance with the provisions of a Memorandum of Understanding to be entered into between the Forest Service and the Department of the Army.

7. The Commanding General, Fort Bliss, will notify the Bureau of Land Management and Forest Service, as applicable, of the dates and hours State Highway No. 33 (also known as Highway No. 506) as well as any other recognized roads within the withdrawn area will be open to passage."

(4) Management Programs for McGregor Range lands.

(a) Wildlife. Wildlife on McGregor Range as well as wildlife habitat is managed through a cooperative arrangement between the Department of the Army through Fort Bliss, the Department of the Interior through the Bureau of Land Management (BLM), and the State of New Mexico through the State Department of Game and Fish. The New Mexico Department of Game and Fish manages the wildlife, and the wildlife habitat is managed by the US Forest Service on the 19,364 acres of McGregor Range that are part of Lincoln National Forest.

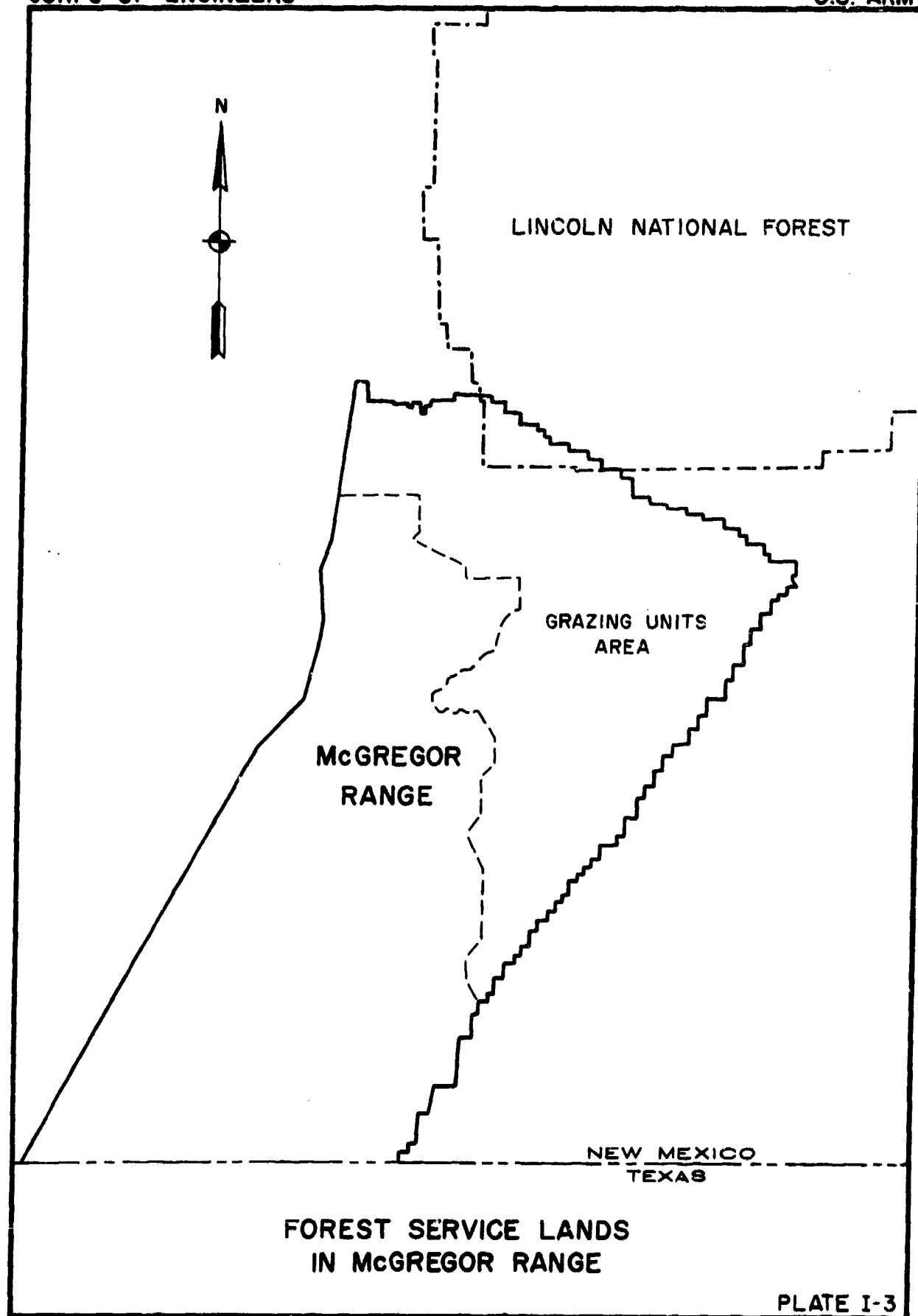
(b) Grazing. A cooperative agreement between the Departments of the Interior and the Army also provides for a grazing program on portions of McGregor Range where compatible with the Army's mission. This program is administered by BLM, and the areas leased for grazing have been placed off-limits by the Army for heavy vehicular traffic (plates I-2 and I-3). BLM has developed land improvements such as water tanks, pipelines, and fencing for this program.

(c) Cultural Features. Cultural features such as archeological and historical resources on McGregor Range are managed cooperatively by the Army, BLM, and the Forest Service. Cultural resources of National Forest lands are managed by the Forest Service. Cultural features of lands administered for grazing by BLM are managed by that agency. The Army, Fort Bliss manages those cultural resources on the remaining portions of McGregor Range which are most influenced by Army training uses.

(5) Cooperative Agreements. Included in this discussion are summaries of the existing cooperative agreements between all agencies involved with McGregor Range. The full text of these agreements appear in appendix D, and the proposed modifications to these agreements appear as part of the initiating measures proposed by the involved agencies at the end of Section III of this environmental statement.

(a) The Memorandum of Understanding between the Department of the Interior and the Department of the Army to provide for Co-Use Grazing on McGregor Range. This agreement provides for a co-use grazing program on portions of McGregor Range to be administered by BLM. The program is consistent with the Army uses of the range and Army leasing laws and policies. The lands will be offered for use by competitive bid leasing.

(b) The Cooperative Plan-Agreement for Consideration and Development of Fish and Wildlife Resources on McGregor Range. In response to the Sikes Act, Public Law 86-797, the Secretary of Defense in conjunction with the Secretary of the Interior and the appropriate State agency, is authorized to carry out wildlife, fish and game conservation and rehabilitation programs on military reservations in accordance with a cooperative plan mutually agreed to by the Secretaries and the State agency. The Cooperative-Plan-Agreement for Conservation and Development of Fish and Wildlife Resources on McGregor Range is the agreement between the Secretaries and the State of New Mexico to provide for protection, development, and management of fish and wildlife resources on McGregor Range. An annual wildlife management survey each spring will be undertaken to determine range conditions and trends in wildlife populations. It also provides for regulated hunting and taking of all wildlife species.



(c) The Memorandum of Understanding between the Department of Defense (DOD) and the Department of Agriculture. This memorandum establishes general guidelines for assistance by DOD components at the request of the Forest Service for forest and grassland fire emergencies, occurring within the United States (48 contiguous states). It provides for operational, and funding and financing procedures.

(d) The Memorandum of Understanding between the US Department of Agriculture, Forest Service, and the Department of Army Corps of Engineers. This is an agreement between the Forest Service and the US Army Corps of Engineers (acting for the US Army Air Defense Center) to provide 19,364 acres of National Forest lands to be used as part of the McGregor Missile Range for defense purposes. The agreement stipulates administration of the lands for all non-defense purposes will be by the Forest Service in coordination with the Army. It also provides for assessment and collection of fees, management, and harvest of wildlife, construction and maintenance of improvements and administration of archeological and paleontological activities by the Forest Service. Provision is also made for prevention and suppression of fires by the Army, the furnishing of firing schedules on a regular basis, taking necessary precautions to minimize damage to soil and vegetation resources in connection with the conduct of defense oriented activities; construction of roads; and rights of access and use by personnel of the Forest Service and Army.

(6) Proposed Military Use of McGregor Range. Fort Bliss is the United States Air Defense Center, and it incorporates the United States Army Air Defense School (USAADS), as well as the various tenant activities. McGregor Range is utilized for a variety of activities which relate to the various missions of Fort Bliss. Besides the training of units in the use of air defense systems, McGregor Range is used for the testing of various weapons systems, both missile and conventional air defense weapons. The range is also used for the testing of foreign units. It has been used for desert warfare training and airborne training. There are only two air defense centers in the world, and the other center is in the Soviet Union. The type of training and testing for which McGregor Range is used requires a large land mass, and many of our allied countries do not have such space available. Therefore, there are 15 different nations which train at McGregor Range. Army uses of the range are listed in paragraph 1.02a, Summary of Present Military Uses, Activities, and Facilities at McGregor Range. Other uses and requirements will depend on the Army's future missions. Present utilization of the range will continue until mission requirements dictate necessary changes.

1.02 Environmental Setting at McGregor Range.

a. Summary of Present Military Uses, Activities, and Facilities at McGregor Range.

(1) In calendar year 1974 there were 509 missile firings on McGregor Range; 156 jet propelled targets, 135 propeller driven targets, and 456 small ballistic aerial targets were launched (figures I-1 through I-3).

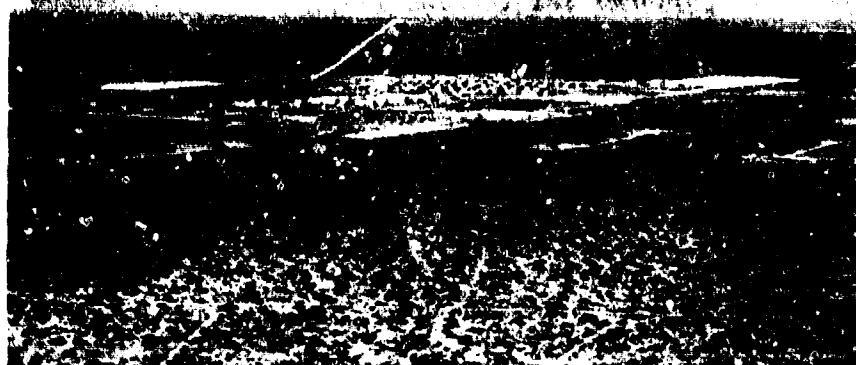
(2) A total of 5,687 US personnel were involved in missile training testing in 1974; 2,417 non-US personnel also used the range.

(3) As shown on plate I-4, the firing fans for the various weapons commonly fired at McGregor Range include the main impact area which covers the central portion of the range. In this major impact area, the Nike Hercules, Nike Ajax, Hawk, and improved Hawk missiles impact mostly in Area 2. Redeye and Chaparral missiles are also impacted in Impact Area 4. The Vulcan gun system and other 20mm and 40mm gun systems are fired in Impact Area 4 and in Impact Area 2. The Pershing missile is fired from McGregor Range and is impacted on White Sands Missile Range. The various foreign systems use these impact areas also. Outside the major impact area is the secondary danger zone which is used as a buffer for any stray targets or missiles which might, as a remote possibility, get off course. Small arms are fired at the General G. Ralph Meyer Range.

(4) An area just northwest of McGregor Range camp is used as an aerial gunnery range. Elements of the 3rd Armored Cavalry Regiment fire at ground targets from helicopters with their various weapons systems.

(5) Fort Bliss is receiving new Basic Combat Training (BCT) units which require use of the Meyer Small Arms Range on McGregor Range because the other small arms range, Castner Range, has been closed and the land transferred to the city of El Paso for a new road system, a mental health and retardation center, a park area for the city, and lands for a community college.

(6) The major structures on McGregor Range are located at the McGregor Range camp which is in the southwest part of the range. Buildings at the camp include the range headquarters and

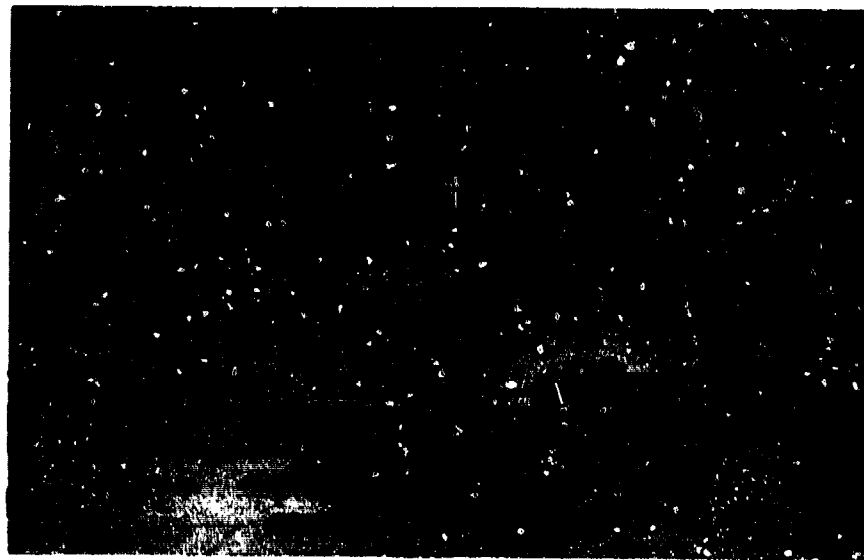


VIEWS OF Mc GREGOR RANGE CAMP

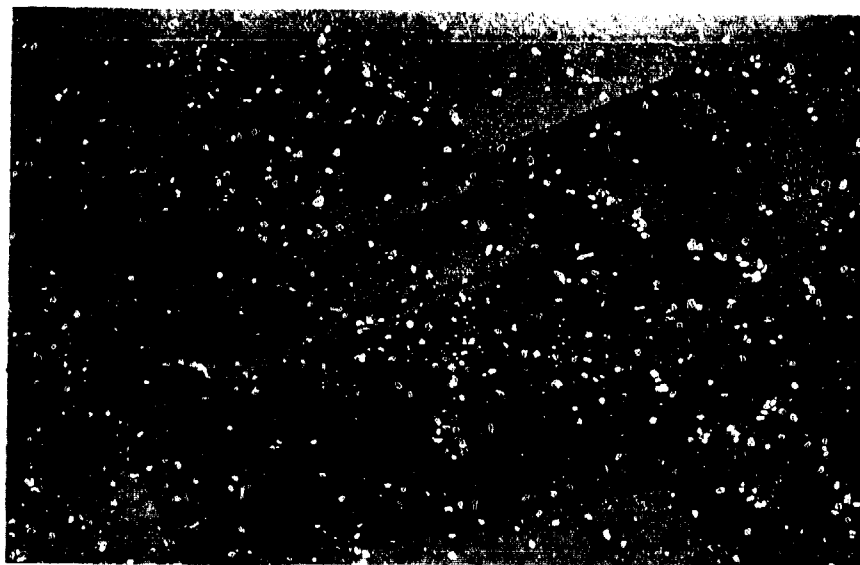


FIGURE I-1

MISSILES FIRED AT Mc GREGOR RANGE



CHAPARRAL MISSILE SYSTEM



REDEYE MISSILE LAUNCHER

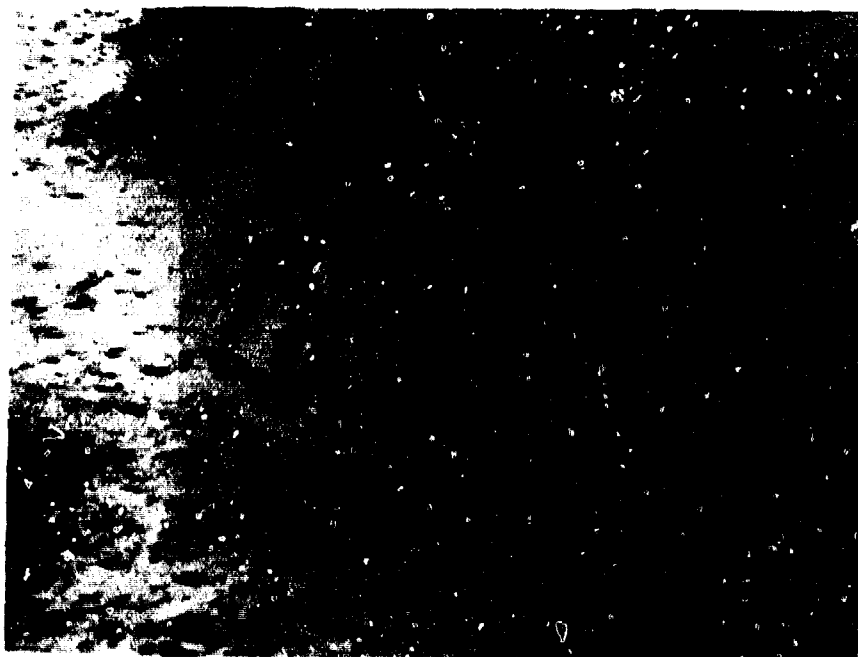
FIGURE I-2

I-13



WEAPON SYSTEMS FIRED AT
Mc GREGOR RANGE

NIKE HERCULES BATTERY



VULCAN WEAPON
SYSTEM

FIGURE I-3

WHITE SANDS
MISSILE RANGE

LINCOLN NATIONAL FOREST

SECONDARY DANGER ZONE

SECONDARY DANGER ZONE

OROGRANDE

PERSHING
BOOSTER
DISPOSAL
AREA

IMPACT
AREA 2

20MM
40MM
REDEYE
CHAPARRAL

NIKE

MISSILE
IMPACT
AREA

HAWK
ALLEY

IMPACT
AREA 4

20MM
40MM

PERSHING
LAUNCH
SITE

McGREGOR
RANGE HQS.

NEW MEXICO
TEXAS

SMALL ARMS RANGE

SCALE OF MILES

1 0 1 2 3

McGREGOR RANGE MAP

PLATE I-4

administrative buildings, the communications center, dispensary, exchange, service club, troop housing for about 2,000 persons, dining facilities, theater, service station, engineer maintenance shop, guided missile maintenance shop, missile assembly and test building, fuel and storage facilities, a swimming pool, gymnasium, and outdoor recreation facilities. The range command also has a chapel, recreation center, and automotive crafts shop. Additions that are planned include more troop support facilities, a crafts shop, and additional outdoor recreation facilities. The estimated value of facilities at the McGregor Range camp is about \$10 million.

(7) Outside the McGregor Range camp are guided missile firing facilities including 26 firing sites for Nike Ajax and Hercules missiles and 8 launcher sites for Hawk missiles; among these are sites that are also used for launching Redeye and Chaparral missiles.

(8) A Chaparral/Redeye firing range is located 5 miles north and 3 miles east of Orogrande, New Mexico. The facilities include a Chaparral range with 12 firing points, 2 control towers, 1 storage area, and a missile checkout building. The Redeye firing range has 4 firing points and a control tower.

(9) Facilities are located immediately east of Orogrande, New Mexico for target launching and repair. The Ryan Aircraft Company operates from this complex by contract to launch and repair the Firebee-Towbee aerial target. This site was once used for launching and maintenance of the RCAT propeller driven targets.

(10) The 3rd Armored Cavalry Regiment is assigned to Fort Bliss. Units from other installations are brought in to oppose the regiment in large joint training exercises (JTX), requiring portions of McGregor Range. Because Biggs Army Airfield is available at Fort Bliss, this places the installation in high demand for these large scale tests of mobility.

(11) McGregor Range is an ideal area for the desert training that is being stressed for some Army units today. Training for such warfare is virtually impossible without an area where arid conditions exist, such as McGregor Range. However, in this regard, only the large regimental or larger scale training exercises will require the land mass of McGregor Range, because there are smaller training areas available at Fort Bliss. Also, because Otero Mesa is mostly fenced and has BLM grazing programs established, including underground water

lines, the Army will use no tracked vehicles on the mesa or on Forest Service lands. Wheeled vehicles will be limited to the use of established roads. Foot troops may occasionally use the mesa for the airborne drops or a similar exercise.

(12) Large scale Army Reserve and National Guard exercises are also held on McGregor Range. These are mostly foot troop exercises until the units reach pickup points, such as the McGregor Range camp, where vehicles are used to transport them to Biggs Airfield from which they are flown to their home bases.

(13) During calendar year 1974 there were about 47 fires on McGregor Range, of which about 15 were known to be caused by missile impact. For this hazard, the 95th Engineer Detachment (Firefighting) has the mission to put out fires on the range.

(14) The Provost Marshal's office at Fort Bliss has the enforcement authority on the range. Range riders check for unauthorized entry and violations of Federal regulations and laws that concern installation lands.

(15) Other various supporting facilities are required to serve the missions which utilize range lands. Fort Bliss maintains all required roads to their facilities. The State of New Mexico maintains State Highway 506 which crosses the range, and BLM maintains roads for their management programs and facilities. Utilities for communications, power, water, gas, and waste disposal are also required on the range. Fort Bliss owns and maintains the communications network and the waste disposal systems, but electricity, gas, and water are provided by municipal and commercial sources.

b. Other Federal Activities at McGregor Range.

(1) Bureau of Land Management. Public Land Order (PLO) 1470, as amended by PLO 1547, which withdrew the lands at McGregor Range from public domain, provided that the grazing use of the lands, if so determined by the commanding officer to be compatible with military uses, could be undertaken by BLM. In that regard, BLM has established a grazing program which encompasses most of Otero Mesa and part of the north end of the basin part of the range. These areas are divided into management units that are individually managed for grazing according to their carrying capacity. These units are offered for use by competitive bid leasing for periods and under conditions prescribed by BLM. To this end BLM has developed and maintains fencing and water systems to make this program possible. Grazing fees collected by BLM are divided on a percentage basis by the proportion of Army "acquired" land to the

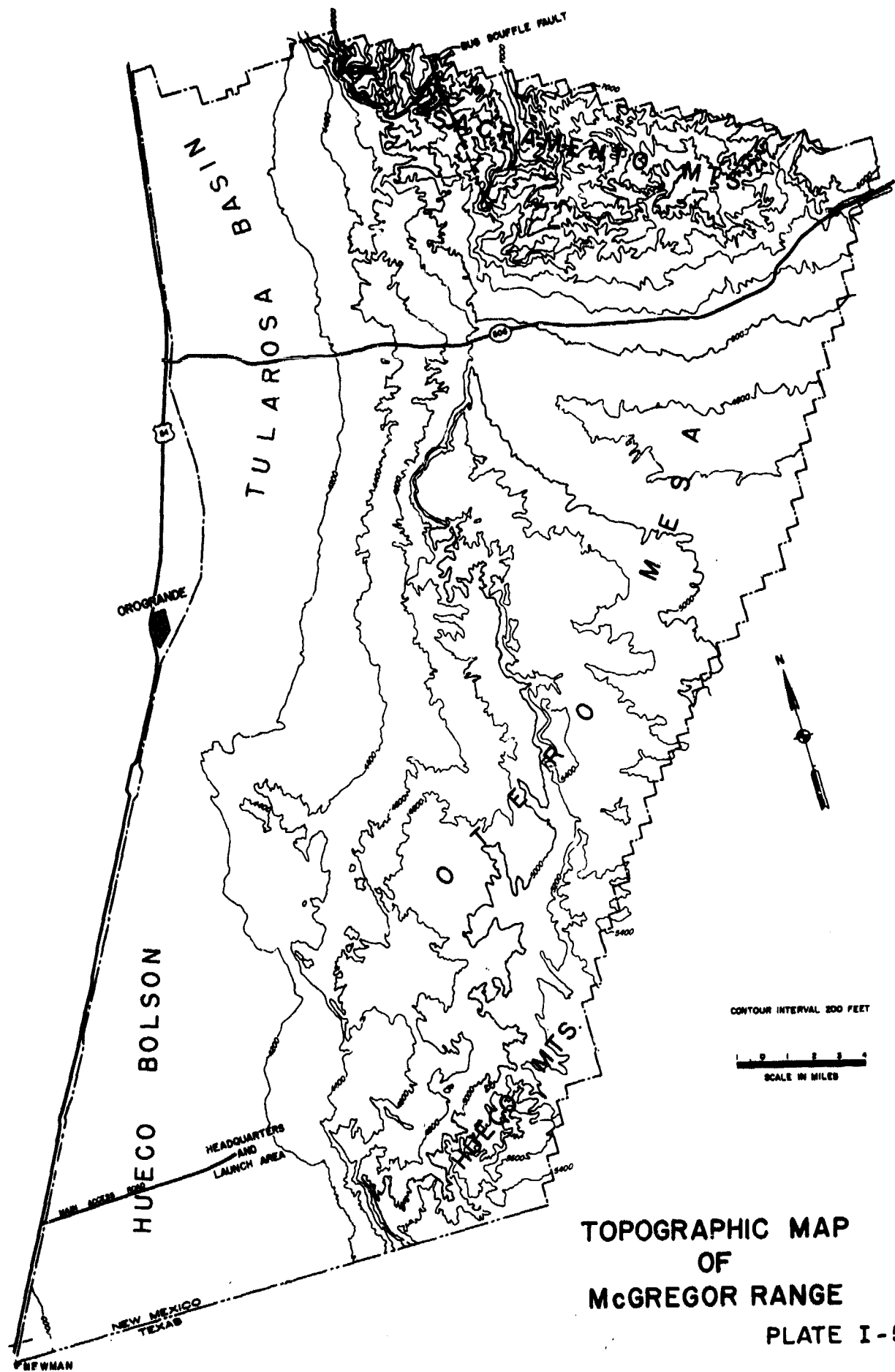
"withdrawn public domain lands." The funds for those Army lands are transferred to the Army. BLM also maintains firebreaks on land boundaries that are used for grazing. The watering systems include pipelines, tanks, windmills, tubs, etc., with most of the water coming from the Sacramento Mountains.

(2) United States Forest Service. The Memorandum of Understanding between the Forest Service and the Department of the Army concerning Forest Service lands allows the Forest Service to administer the lands for all nondefense purposes and activities not related to the missile range purposes. Livestock grazing is allowed, and the Forest Service issues a permit and collects a fee for grazing on the Forest Service land. These fees are deposited into the National Forest Fund except for those fees earned on Army owned lands which are transferred to the Army. The Forest Service makes improvements such as livestock control fences, range and wildlife water catchments, and watershed structures.

(3) New Mexico Department of Game and Fish. In New Mexico Statutes Annotated, 1953 compilation, Fish and Game, Article 1, State Game Commission Section 53-1-1 Declaration of Policy, it states, "it is the purpose of this act and the policy of the State of New Mexico to provide an adequate and flexible system for the protection of the game and fish of New Mexico and for their use and development for public recreation and food supply, and to provide for their propagation, planting, protection, regulation and conservation to the extent necessary to provide and maintain an adequate supply of game and fish within the State of New Mexico."

(4) Soil Conservation Service. SCS is surveying McGregor Range to establish soil surveys for Otero County. They have access to McGregor Range when scheduled firing does not limit their presence on the range. Their interpretations of soil limitations will be very helpful to Fort Bliss in determining the most appropriate areas for surface uses that will occur on the range, as well as methods to avoid soil disturbance and potential erosion.

c. Physiographic Region. McGregor Range is situated in the Sacramento section of the Basin and Range physiographic province in south-central New Mexico. Five distinctive topographic regions are evident on the range, including topography from about 4000 feet mean sea level (msl) along the western boundary to over 7000 feet msl in the Sacramento Mountains on the northeast (plate I-5). The western one-third of the range is flat desert divided into the Tularosa Basin on the north and the Hueco Bolson on the south. These basins are separated by an indistinct divide near the Jarilla Mountains to the west of the range. The rugged Sacramento Mountains border the northeast corner of the range; to their south and throughout the



TOPOGRAPHIC MAP
OF
McGREGOR RANGE

PLATE I-5

east-central portion of the range is the broad flat tableland known as the Otero Mesa. To the south of the mesa are the low rounded Hueco Mountains on the southeast corner of the range (figures I-4, I-5, I-6).

d. Geological Elements.

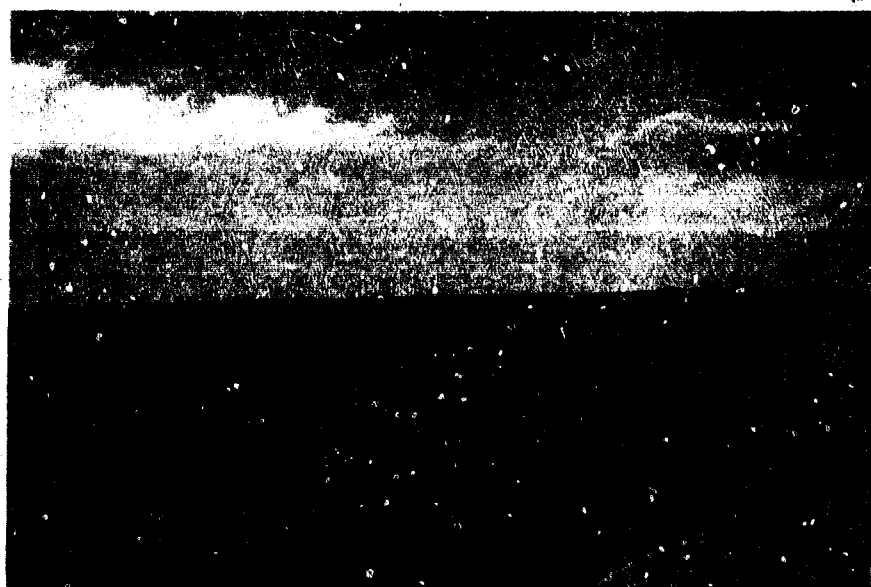
(1) Geologic History. McGregor Range was located under water during the late Cambrian through the early Pennsylvanian periods as a marine shelf. The shelf was formed by sedimentation with deposits as old as 400 million years that now appear as dolomite beds. Additional dolomite beds of the Middle Silurian age overlie the older dolomite beds. Deposition during Devonian time consisted mainly of marine shales and shaly limestones. A thin upper Mississippian age layer of limestone and shale overlies the Devonian rock. Over the Mississippian deposits are about 3,000 feet of Pennsylvanian age sediments including limestone, sandstone, dolomite, and shale. In Virgilian time, forces below the earth's crust altered the area by pushing up on either side of what became the Tularosa and Hueco basins. In late Pennsylvanian and early Permian time this depression received a third deposit of sediments from land masses to the east. These sediments formed sandstone, siltstone, and conglomerates. Late Permian strata are sedimentary limestones which mark the intrusion of water once again into this area. In late Tertiary time, forces from below the earth's crust uplifted tilted fault blocks which are the Sacramento and Hueco Mountains. For the last million years the Tularosa and Hueco depressions have been receiving sediments washed in from the surrounding mountains. They have accumulated to a thickness as great as 5,000 feet.

(2) Stratigraphy. The arrangement of layers of strata at McGregor Range is chiefly a reflection of the historical deposition of sedimentary materials. That portion of the Tularosa Basin-Hueco Bolson consists of a thick sequence of unconsolidated sand, gravel, clay, and caliche ranging from Recent to Tertiary age. The surface materials are very fine-grained sand and silt which grade downward into a more clayey material. A hard, impermeable caliche deposit is commonly present within a few feet of the surface in the southern part of the range. These deposits form a water barrier for downward percolating meteoric water (water which falls as rain or snow). The clays are brown to reddish brown and range in texture from highly plastic to variably sandy and silty. The near surface granular materials are fine grained, becoming very coarse to gravel and boulder size near the escarpments of the Sacramento Mountains and Otero Mesa. These deposits are broad coalescing alluvial fans built up by debris

PHYSIOGRAPHY OF MCGREGOR RANGE



VIEW NORTH FROM TULAROSA BASIN WITH SACRAMENTO
ESCARPMENT IN THE BACKGROUND



OTERO MESA

FIGURE I-4

PHYSIOGRAPHY OF Mc GREGOR RANGE



VIEW EAST FROM HUECO BOLSON WITH HUECO
MOUNTAIN IN BACKGROUND



VIEW EAST FROM TULARCOOSA BASIN WITH OTERO
MESA ESCARPMENT IN BACKGROUND

FIGURE I-5

PHYSIOGRAPHY OF Mc GREGOR RANGE



VIEW NORTHWARD INTO SACRAMENTO
ESCARPMENT VALLEYS



VIEW NORTHWARD ALONG OTERO
MESA ESCARPMENT

FIGURE I-6
I-23

from the mountain canyons. Stratigraphic units exposed in the Sacramento Mountains include about 12,000 feet of Cambrian through Mississippian age rocks, about 1,900 feet of Pennsylvanian rocks, and about 1,100 feet of Permian age sediments. A major part of McGregor Range is located on the Otero Mesa, an upland mesa between the Sacramento and Hueco Mountains. The relatively flat mesa is capped by hard limestone beds of Permian age. The west facing escarpment of the mesa exposes shale, sandstone, limestone, pure gypsum beds, and the underlying red beds of another formation. The northern limits of the Hueco Mountains are situated in the southeast corner of the range. Approximately 1,400 feet of paleozoic sediments are exposed in this area above the desert floor. Some of the exposed formations contain petrified logs as long as 12 feet and 3 feet in diameter.

(3) Structure. The major structural feature within McGregor Range is the fault zone which marks the boundary between the Hueco-Tularosa depression and the Sacramento-Otero-Hueco highlands. This zone trends near north-south and is a gravity type fault zone downward to the west. The vertical displacement along the boundary fault is about 3,500 feet in the southern end of the Sacramento Range, decreasing to the south along Otero Mesa. The Sacramento Mountain portion of the reservation is structurally complex. Anticlines, synclines, and normal faults are conspicuously exposed in the escarpment and canyon walls. A major fault, the "Bug Scuffle Fault," has been mapped in the range. This fault has a vertical displacement of about 1,000 feet. Otero Mesa and the Hueco Mountains have beds which slope gently to the east and are structurally less complex than the Sacramento Mountain area. Minor folds and faults occur, but they are minor in comparison to the west escarpment fault zone. The Hueco Bolson-Tularosa Basin region is a continuous depression between two uplifted fault block ranges.

(4) Aquifers. Ground water encountered in test wells drilled in the Hueco Bolson within McGregor Range was found to be highly mineralized (salty) and was not suitable for human consumption. The Paleozoic rocks found in the upland areas of the reservation contain small pockets of locally perched water which may be usable for consumption, but it is assumed that no suitable ground water aquifers are present in McGregor Range.

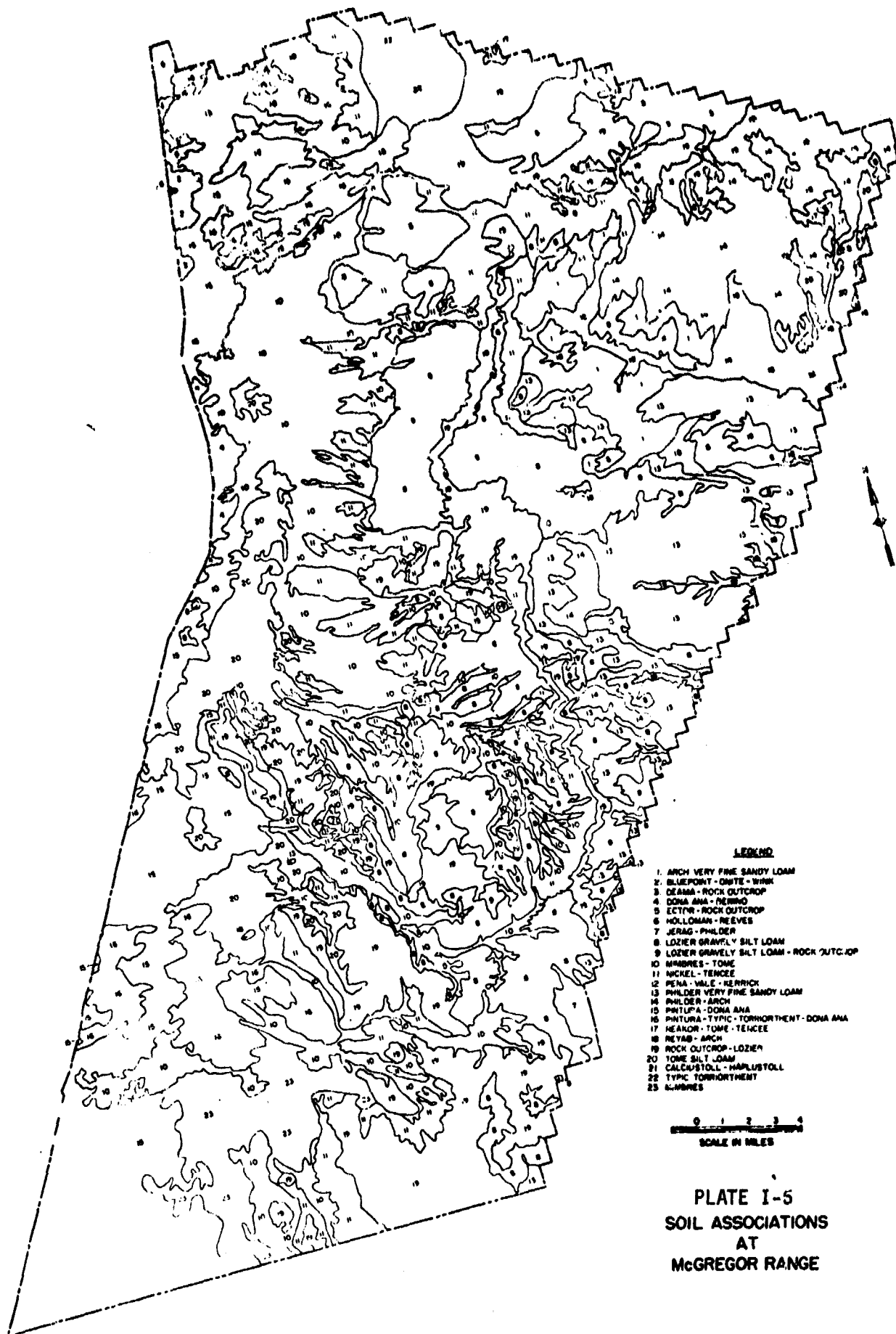
(5) Economic Geology. Many gypsum beds of commercial quantity and quality are present within the McGregor Range boundary. Gypsum beds are exposed on the gentle slopes of the small cuestas (ridges or plateaus cut away by erosion from the mesa escarpment) below and west of Otero Mesa. They also occur on the steep slopes of the Otero Mesa escarpment in a very pure form. The Hueco Mountains contain a gypsum deposit of commercial value 25 to 75 feet thick. In the northern part of the reservation, high-purity dolomite deposits crop out near the base of the Sacramento escarpment. These strata contain over 20 percent magnesium. Sand and gravel deposits of value for construction are present throughout the range. These include sand and

gravel deposits near the base of the Sacramento-Otero escarpments and in the arroyos in the northern part of Otero Mesa. Limestone and sandstone strata are present near the surface over a large part of the reservation. These rocks are suitable for crushed stone for concrete aggregate, base course material, building stones, etc. The McGregor Range has a potential for base and precious metal mineralization. Geologic settings in known mining districts north and west of the McGregor Range bear similarity to geologic environments on the range, and this similarity suggests that the range may well contain base and precious metals. Some petroleum deposits exist in the area, and it is reasonable to assume that there could be some oil and gas available on McGregor Range. At least 4800 to 6400 feet of potential oil-bearing rocks remain untested in the Tularosa Basin and Otero Mesa areas. Five shallow petroleum exploration tests, two of which reported multiple oil and gas shows, were drilled on the McGregor Range prior to occupation by the military. Exploratory activity has been precluded for 19 years by military occupancy. Geothermal energy development may be a possibility on McGregor Range, but it is not known at present if a geothermal reservoir underlies the range.

(6) Soils. The surface soils on McGregor Range can be placed generally into the categories of rock outcrops, silt loams, sandy loams, gravelly loams, fine sands, and silts, plus various combinations of these. All of the soils are a result of the weathering of the limestone, sandstone, and shale bedrock and the intrusion of eolian (windblown) materials from other areas. The soils are mostly calcareous and alkaline, have moderate permeability, and are moderately well drained with the exception of impervious caliche layers or bedrock near the surface in some areas. The soils of the Sacramento and Hueco Mountains are relatively shallow with many intrusions of the limestone bedrock which is close to the surface. The soils of Otero Mesa are developed primarily from calcareous eolian and upland alluvial from the weathered limestone of the Sacramento Mountains. They are fine sandy loams, and are well drained except where calcic substrata is impervious to water. This substrata is also a barrier to deep rooted vegetation. This area is used mostly for livestock grazing, for which it is well suited, except that erosion is a constant hazard where overuse occurs in dry periods. The soils will support grasses, but when moisture is lacking and overuse occurs, the grasses are quickly replaced by less useful annuals, forbs, and woody plants. In the Tularosa-Hueco basin part of the range the soils have been formed and influenced by the eolian deposits which are constantly moving on the range; sand dunes occur as well as relic lakebeds. Between dunes, medium textured soils are common. The coppice dunes are deep, loamy fine sands, and sandy loams can

be more than 60 inches deep. Between dunes fine sandy loams and clay loams occur where the soil is not blown away to expose sedimentary materials. Numerous playas (surface depressions that collect meteoric water and have no outlets) occur, and soils which form lakebed sediments are silty loams and clay loams. Gypsum occurs near or at the surface of some of these relic lakebeds. The coppice dunes are stabilized to an extent by vegetation such as mesquite, four wing saltbush, mesa dropseed, snakeweed, and some annuals. When this vegetation is disturbed, the dunes erode more readily. Between the basins and Otero Mesa are upland plateaus and broken mesa fragments which have gravelly silt loam soils and rock outcrops. The soils are thin and underlain by limestone bedrock. These are good areas for wildlife because of available cover and a lack of disturbance, but they are inaccessible for livestock use. McGregor Range covers an area of nearly 700,000 acres. In an area of this magnitude, the soils vary widely in distribution and composition; but at McGregor Range the soils can be categorized as several basic types that in their various compositions form 13 soil associations (plate I-6). These are discussed in detail in appendix A, section A-9).

e. Hydrological Resources. Drainage on McGregor Range is by way of intermittent washes and closed systems which lead to playa lakebeds, or as in the case of drainage from the Sacramento Mountains, the water pours onto alluvial fans where it evaporates. The Sacramento River, the major stream in the area, crosses the northeast corner of the range and drains out onto the mesa east of the range where the water seeps into the ground or evaporates. McGregor Range is characterized by low precipitation with an average of only about 10 inches per year on the uplands and only about 8 inches in the basin lowlands. Most of this rain comes from summer thunderstorms. Surface waters from these storms run over the surface and collect in washes, but the high evaporation rate (about 105 inches per year) and percolation soak up and evaporate this surface water quickly. There are no perennial natural bodies of surface water on McGregor Range. However, BLM maintains small tanks behind earthfilled dams for stock watering, and keeps these filled when required from piped water from collection basins in the Sacramento Mountains. About 30 tanks are maintained by BLM. The ground water table varies in depth throughout the range, but it is generally deep, over 250 feet below the surface of the ground. The quality also varies greatly, but it is generally poor. Most of the ground water is highly mineralized and in places hot. Recoverable quantities are also low; the few operating wells, about 4, on the range have yields of from 5 to 20 gallons per minute. Sewage is treated in oxidation ponds. There is some overflow from the McGregor Range ponds, but this effluent does not enter any surface waters or leave the range. Most of it evaporates. It is unknown if much penetrates the caliche, an impermeable layer of cemented soil that underlies this area, to reach the ground water. To the south below parts of the installation proper, lies an aquifer which does have a quantity of good water. Both Fort Bliss and El Paso have wells which utilize this resource. At the present, this water supplies the bulk of water for the in-



stallation, and the city. However, the aquifer is not being re-charged at the rate of use, and its expected usability should not exceed 50 years. Although the Rio Grande flows through El Paso, the only water available to the city is that purchased with irrigated lands in the Rio Grande valley upstream. That water is used during the summer months to supplement the city's dwindling supply from wells.

f. Land Use at McGregor Range. The McGregor Range portion of Fort Bliss is located in the south-central part of Otero County, New Mexico. The McGregor Range Planning Unit is a Special Cooperative Management Unit between the Department of the Interior and the Department of the Army.

In 1957, McGregor Range was withdrawn by the Department of the Army as a missile testing range. PLO No. 1470 of 21 August 1957, as amended by PLO 1547 dated 7 November 1957, withdrew all the lands in the McGregor Range for use by the Army. This withdrawal limited the land use to only military purposes by the US Air Defense Center, Fort Bliss, Texas, as a missile testing range. All other uses of the range including livestock grazing were eliminated. In 1966, a Memorandum of Understanding between the Department of the Interior and the Department of the Army was approved which provided for co-use grazing on McGregor Range. In 1967, a Cooperative Plan Agreement for conservation and protection of fish and wildlife resources was approved. This agreement provided that BLM will exercise the authority of the Secretary of the Interior under Public Law 86-797 (Sikes Act) for wildlife habitat management on McGregor Range. BLM is responsible for livestock grazing, maintenance or range improvements, and wildlife habitat on McGregor Range. All other uses are restricted due to the military withdrawal.

Grazing units were established by repairing old grazing allotment boundaries and constructing boundary fences where needed around the planning unit. Eleven grazing units totaling 246,000 acres have been contracted annually to the highest bidder under a Conservation Grazing Management System. The 11 grazing units receive annual deferment during August, September, and October, critical growing periods for most forage species.

The fees collected from grazing contracts are used to improve the McGregor Range management units with the exception of 10 percent of the total, which goes to the Department of the Army. BLM is responsible for the maintenance of livestock facilitating improvements. The lessee assumes maintenance responsibilities of fences and corrals upon possession of the grazing unit.

The Forest Service, under its Memorandum of Understanding, finalized 11 November 1971, is responsible for administering its lands which involve 19,364 acres for all nondefense purposes. This acreage is at the northern tip of McGregor Range and is part of Lincoln National Forest.

The Forest Service has followed a Grazing Management System on the 19,364 acres since June 1968, following approximately 12 years of nonlivestock use. The Forest Service issues a term grazing permit for a 10 year term, and it is validated annually. Grazing permits are not obtained by competitive bidding, but are related to the original owners of the land who retain grazing privileges. Permits are transferred to purchasers of base property or livestock.

McGregor Range contains 697,474 acres. The acreage provided by the Memorandum of Understanding for Co-use grazing is 515,000* acres and includes lands as follows:

Withdrawn public domain	463,000 acres
Acquired nonpublic lands	52,000 acres
Total	515,000 acres

*Of the total, 246,000 acres are presently grazed.

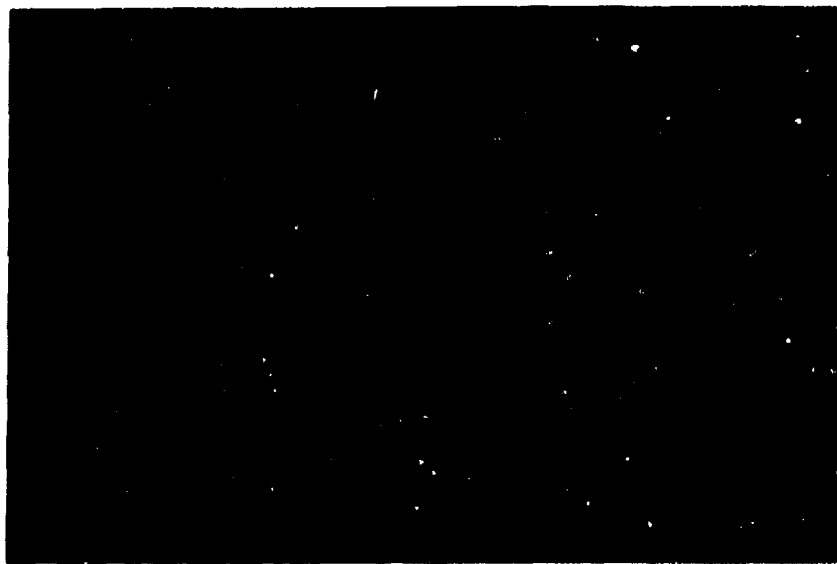
Because of the military withdrawal, access is controlled during periods of military operation.

g. Area Aesthetics and Recreational Potential. The terrain on McGregor Range presently reflects centuries of shaping by nature. This is a land which is arid and forbidding but with abundant life. The diversity of land forms which are apparent on the range can be categorized generally into the basin lowlands, the mesa, the foothills and mountains, and the transitional "edge" areas. Of these the mesa area is the least scenic because of a lack of variety and the transitional and mountainous areas are the most scenic. These latter areas show the unity, variety, vividness, and the contrast which are recognized as characteristics of scenic beauty. The range shows stark changes from the deserts to the mountains, and its character is in a continuum of change with weather conditions. With moisture the range can blossom with the contrasting color of a variety of foliage, plants, and wildflowers, but it can be cruel and stark with the monotony of a dust storm which blots out the many colors present. From the Tularosa Basin to the Sacramento Mountains, McGregor Range contains a diversity of scenic beauty. However, military uses of the range preclude public uses there because of the incompatibility of military activities and public recreations.

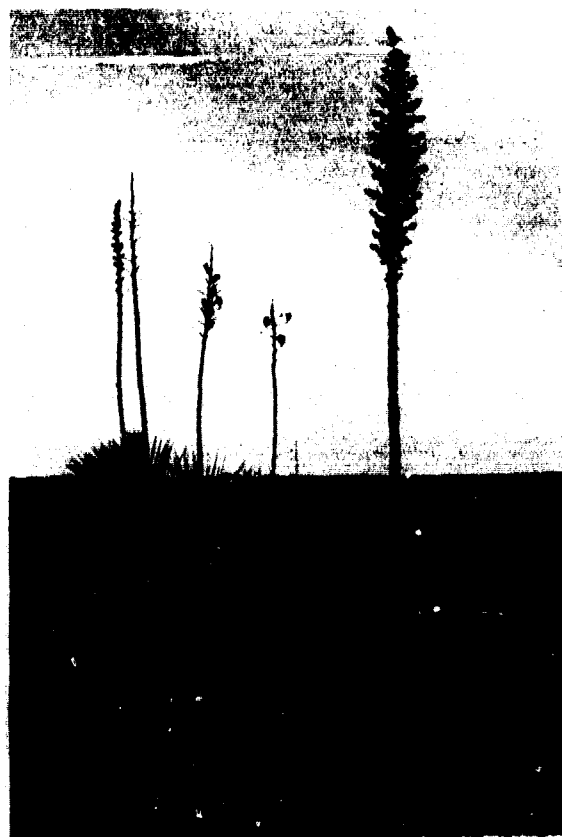
The diversity of lands contained within McGregor Range from desert dunes to mountain forests provides a parallel range of potential recreational values. If the range were under Bureau of Land Management and Forest Service management, parts of the area would likely be open for public recreation. The potential use of these lands would include most outdoor recreation uses such as hunting, collecting, sightseeing, off-road excursion, camping, picnicking, nature study, and scientific research. The lands which comprise McGregor Range contain unique historical, archeological, geological, botanical, and ecological resources which are of value for a broad range of public interests.

h. Flora and Fauna. Because of the large amount of land area contained within McGregor Range, variations of topography, soils, and vegetational coverings are not uncommon and are easily distinguished. The complicated relationships or ecological associations between types of soil and different vegetation species that have evolved in this arid climate are visibly evident in five separate ecozones. From the lowest to the highest in elevation, these ecozones are: sand dune and mesquite (figure I-7), alluvial fan and creosotebush, foothill-draw and yucca-grassland and mountain-canyon and pinyon-juniper. In a similar way, certain faunal species are reflections of their different physical surrounding on McGregor Range. Specific species have adapted to their environment and seldom vary from it unless forced to do so. Some species are more characteristic of one ecozone than another; for example, the kangaroo rat in the sand dunes or the antelope on the mesa. However, there are other species that are common to the entire range (e.g., many birds and rodents). The biota of the five ecozones or communities is in constant interaction, and even though it seems there are visible boundaries between them, in reality no definite interface exists. The terrestrial ecosystem of McGregor Range presents a balanced ecological profile restricted from most biotic disturbances. The ecological survey conducted by the US Army Environmental Hygiene Agency (1975) reported no fish species, 46 mammals, 199 birds, 10 reptiles, and 10 families of insects for the study area. The Endangered Species Act of 1973 provides for the conservation of endangered and threatened species of fish, wildlife, and plants. Pursuant to this act, Public Law 93-205, Federal, State, and other organizational lists of rare and endangered species have been prepared. The only resident species known to inhabit McGregor Range that is on the official State of New Mexico list of endangered animals is the (Arizona) black-tailed prairie dog, Cynomys ludovicianus arizonensis. The State of New Mexico lists three species of endangered snakes likely to be present on McGregor Range, the mottled rock rattlesnake, Crotalis lepidus, Mojave rattlesnake, Crotalis scutulatus, and Trans-Pecos rat snake, Elaphe subocularis. There are several bird species on both Federal and State lists that could be expected to occur occasionally as migrants on the range. At this time, there is no officially adopted New Mexico list of endangered plants. Among endangered plants on the Federal list that may be present on McGregor Range are

TULAROSA BASIN VEGETATION



COPPICE DUNE STABILIZATION



YUCCA CLUSTER

FIGURE I-7

ECOLOGIC

VALLEY FLOOR

sand dune - Mesquite

SLOPES

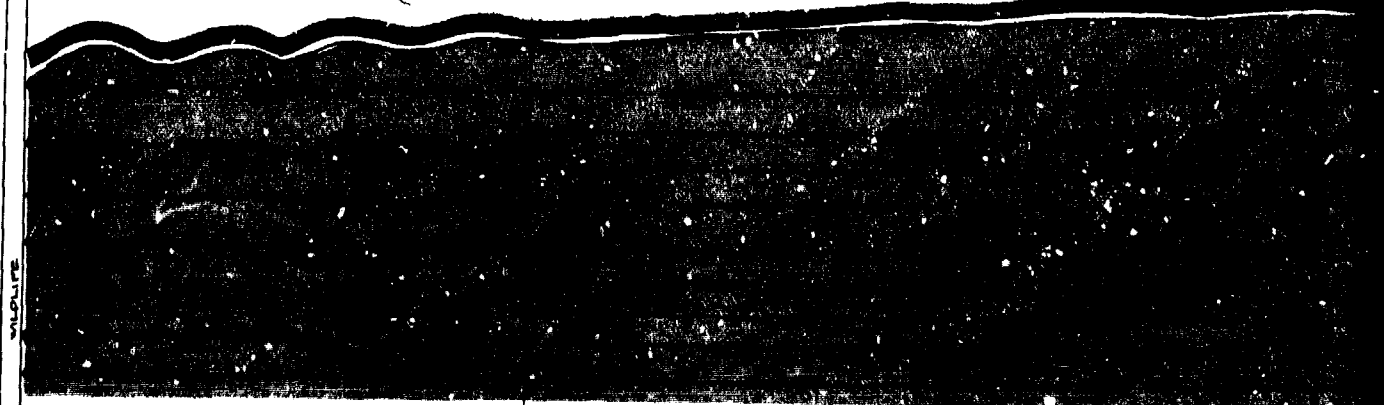
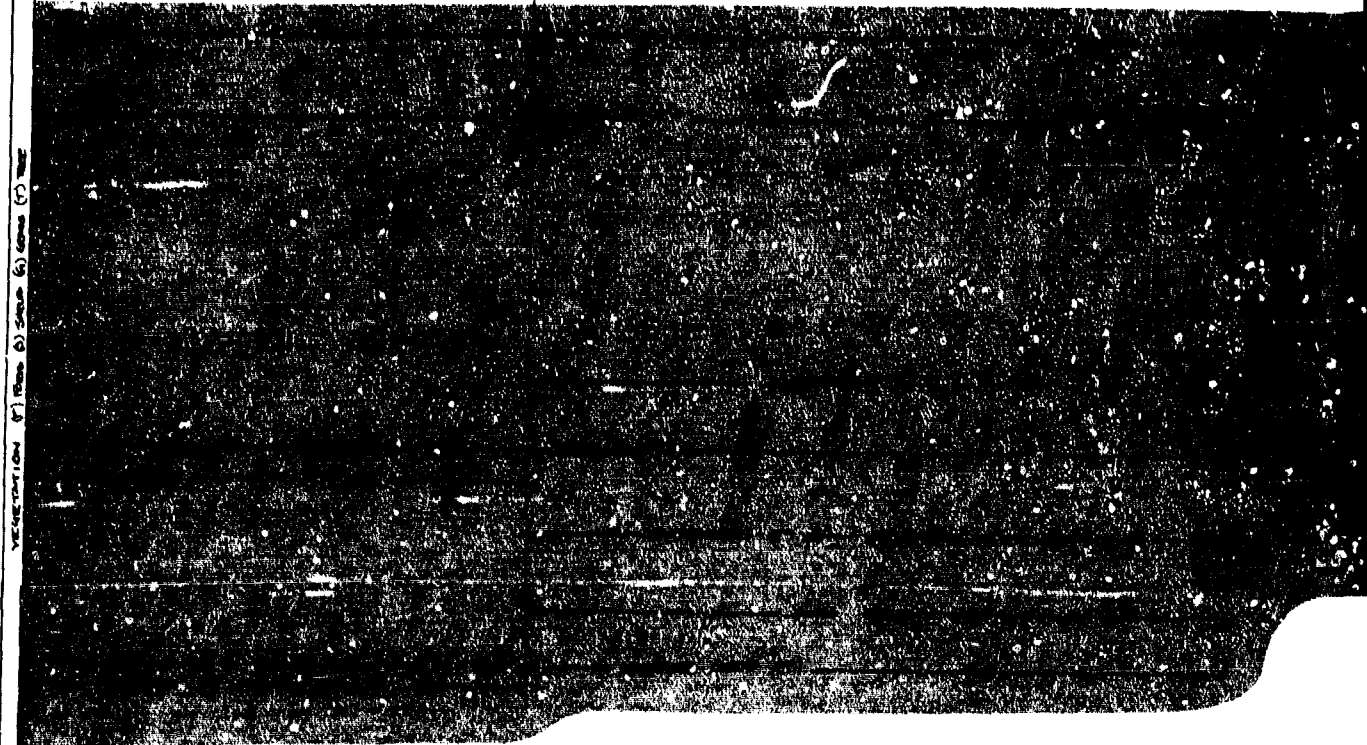
AND

RI

Alluvial fan - Creosotebush

Portulaca

VEGETATION (1) Trees (2) Shrubs (3) Grasses (4) Forbs



WILDLIFE

BROWN SANDS - GREY SILTY LOAMS

MIXED CLAY

SAND

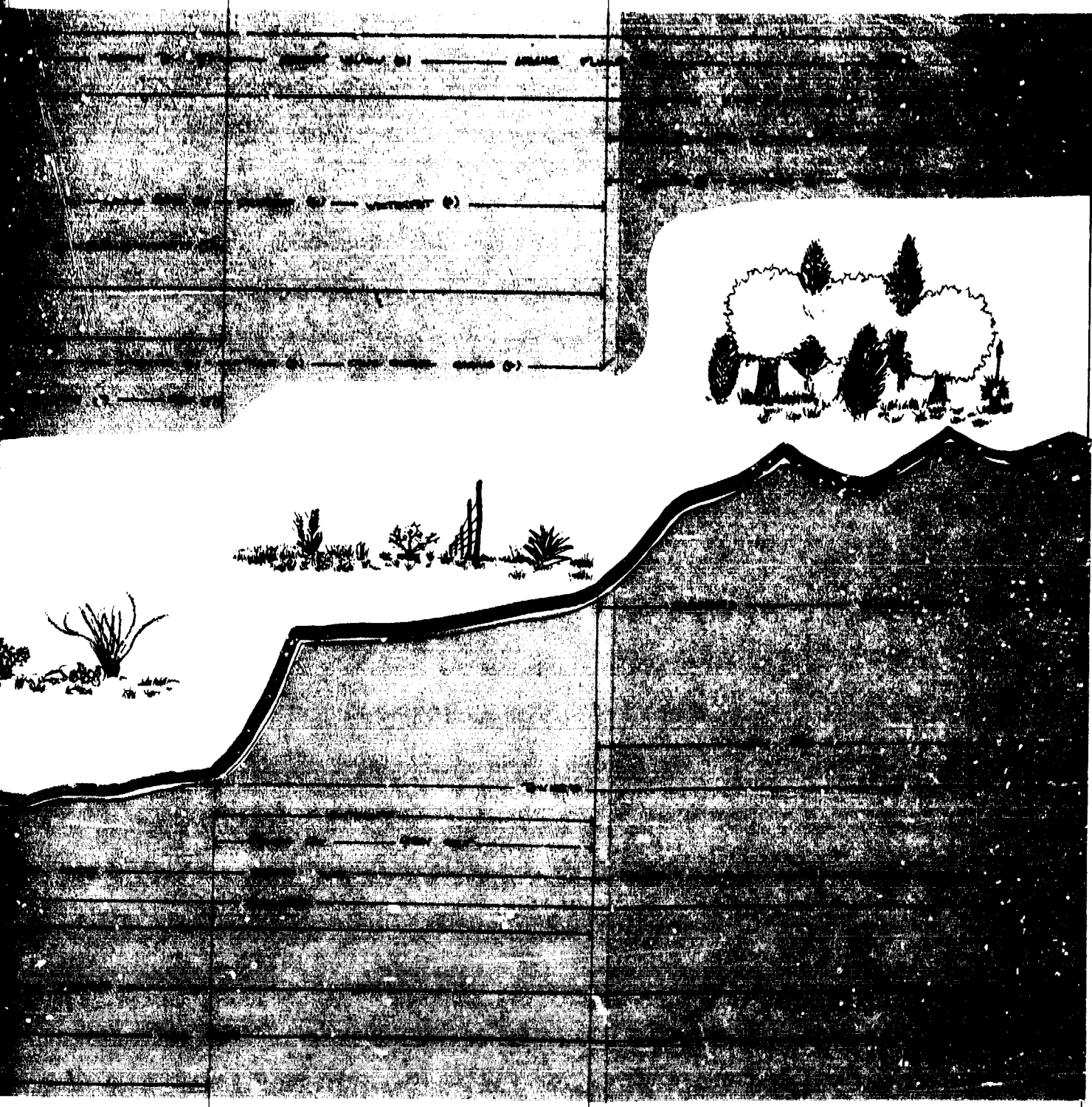
GRAVEL

AND

ROCKS

CROSS SECTIONAL PROFILE

RIDGES — Yards, Grassland MESA — Grasslands MOUNTAINS — Mountain, Canyon — Pagan, Jumper



Limestone rubble or shallow sand on limestone base

2

Muhlenbergia villosa and Opuntia arenaria. Federal and State lists of endangered or threatened plant and wildlife species that may occur on McGregor Range are found in section A-8, appendix A. (Reference: Republished list, Federal Register, Vol. 41, No. 208, part IV, 27 October 1976.) The relationship between the flora and fauna of McGregor Range is shown in the Ecological Profile (plate I-7).

1. Social, Cultural, and Economic Resources.

(1) Population. The McGregor Range base camp employed 500 military and civilian laborers in November 1975, and Fort Bliss overall in March 1976 employed 27,600 military and civilians. Activities at Fort Bliss supported about 100,000 of the estimated 401,000 population of the El Paso Standard Metropolitan Statistical Area in 1975. There were 54,670 dependents of military personnel stationed at Fort Bliss and 10,300 retired military plus their dependents residing in the El Paso area. The small communities near McGregor Range, Orogrande, New Mexico, and Newman, Texas had a 1975 population of 75 and 25 respectively. Otero county, New Mexico in which McGregor Range is located, had an estimated population of 43,100 in 1975.

(2) Economics. The economic base of Otero County is mostly supported by the agricultural industry and Federal capital. The livestock production in the county is valued at approximately \$10 million. Federal capital is available as a result of payrolls from Holloman Air Force Base, White Sands Missile Range, Forest Service, BLM, The Department of Agriculture offices, and Fort Bliss.

During the period April 1975-March 1976, the value of military and civil service payrolls and contract disbursements by Fort Bliss was \$319.4 million. Fort Bliss purchased local supplies amounting to \$39.8 million and had military construction costs of \$14.1 million. As a comparison, the manufacturing value to El Paso in 1975 was about \$347 million. At McGregor Range, the military and civilian payroll was \$2 million in 1975. The contribution of Fort Bliss to the El Paso area economy in 1975 was about \$370 million.

(3) Lifestyles. Social activities in the area form the basis for community lifestyles. These include social, ethnic, political, religious, occupational, and educational institutions. (Further discussion of these organizations can be found in appendix A, section A-10.)

There are no public schools on McGregor Range. School age children at Newman are bused to schools in the Ysleta Independent School District, and those in Orogrande are bused to schools in the Alamogordo School District.

Most of the civilian and military personnel who work at McGregor Range live in El Paso. The population which lives in that community can have memberships in any of the associations and organizations in the area.

Military personnel assigned to Fort Bliss may continue their education onpost or at El Paso Community College, at industrial and trade schools located in the area, or at the University of Texas at El Paso.

(4) Community Needs. Required community services are housing, transportation (discussed in detail in appendix A, section A-11), and utilities (discussed in detail in appendix A, section A-6). The highway transportation system that serves the population and its economic base is US Highway 54. Major improvements are being planned by Texas' State Department of Highways and Public Transportation and the New Mexico Highway Department. These improvements will be in the form of a four lane divided highway. The base camp at McGregor Range has the required community services based on its present mission. The facilities include adequate troop housing, dining areas, a medical building, a movie theater, branch library, branch post exchange, swimming pool, and a service station.

Utilities supplied to McGregor Range are water, electricity, and natural gas. Wastewater treatment facilities and telephone systems are owned and operated by the US Army. Potable water for the range is purchased from the city of El Paso. The amount used at McGregor Range in 1974 was approximately 160,000 gallons per day. Electricity is provided through a 69 KV transmission line which is owned and operated by the El Paso Electric Company. The amount used in 1974 at McGregor Range was 3.5 million kilowatt hours. Natural gas is provided by the El Paso Natural Gas Company supplier to Southern Union Gas Company in the El Paso area. McGregor Range used 53,394 mcf (thousand cubic feet) during the 12 month period July 1974-June 1975.

Solid wastes (domestic type) at McGregor Range are collected by contract and disposed of in a sanitary landfill. Scrap metal is picked up on the range and recycled through a local dealer.

The secondary wastewater treatment systems consist of two Imhoff tanks and a 10 acre oxidation pond. Any overflow water evaporates. There are no industrial wastes generated at McGregor Range.

The telephone system is operated by personnel of the US Army Communication Command. The telephone lines consist of both underground and overhead lines.

j. Mineral and Energy Resources. Although two exploratory oil and gas tests conducted on the McGregor Range have reported multiple oil and gas shows, it is not known if economic quantities of these commodities are present. Evidence indicates that there may be geothermal energy available from hot ground water underlying the range. A mineral survey has been proposed for the McGregor Range. Results of this survey will provide an indication of the mineral values present.

k. Air Resources. Because there are no significant on-range pollution sources, air quality above and surrounding McGregor Range is good. In support of this statement, a 6-week air quality study was conducted on the range. Results of this study showed the concentration of sulphur dioxide, oxides of nitrogen, and carbon monoxides were well below applicable air quality standards and reflect expected background, or ambient levels of these pollutants. Hydrocarbon levels do exceed the established standards, but when compared with Environmental Protection Agency (EPA) data, the levels are very low and are typical of non-urban background concentrations of this pollutant. The concentration of photochemical oxidants also exceeded standards at various times during the survey. Because no correlation between military activities on McGregor Range and oxidant levels could be found, it is probable that the oxidants originate at nearby urban areas and are then transported to the range by prevailing winds. The suspended particulate levels also exceed standards at times, but this is a natural state of affairs in this region; i.e., the region containing McGregor Range is subject to many naturally occurring dust and sand storms throughout any typical year. In summary, air quality over McGregor Range is good. The activities of the Army do not place a significant air quality burden on the air space above the range. In those cases where pollutant standards are exceeded, it is believed that the concentrations involved are natural background concentrations, or that the pollutant sources are off-range, and prevailing winds transport the pollutants to the range.

Additional details concerning the results of the air quality survey may be found in appendixes A and B.

l. Archeological and Historical Resources. A cultural resources reconnaissance (see appendix C) carried out on McGregor Range has resulted in the discovery for further delineation and assessment of 379 sites of aboriginal origin. Although a number of these localities were known and documented in existing site record files or in brief published form, the great majority were unreported.

Of the total present site inventory, only six (1.6 percent) yielded evidence of recognizable lithic artifacts dating to the Paleoindian period. In all cases, the Tularosa Valley lowland locations of these sites have been eroded, resulting in the loss of

primary stratigraphic associations. Approximately 30 percent of the observed sites are without visible ceramic artifacts. At the present stage of analysis, a substantial number of the sites in this category may be tentatively assigned to the Archaic period on the sole basis of diagnostic projectile point styles. Sites exhibiting evident components of ceramic age are by far the most numerous in the preliminary inventory. Defined localities yielding pottery comprise 56 to 58 percent of the total. A further grouping of sites, i.e., isolated bedrock mortars without obvious association with other features or cultural materials, buried fire hearths exposed in cutbanks without other visible cultural associations, etc. cannot be assigned even tentative chronological position on the basis of reconnaissance data.

(1) Archeological Site Classification. A wide variety of chronologically and situationally discrete archeological sites were identified during the course of the McGregor Range investigation. For purposes of preliminary ordering, these known localities were segregated into 11 categories; this initial site unit classification utilizes a variable set of attributes upon which distinctions are made. These attributes include site setting (e.g., open or sheltered); demonstrable extent; and type, number, and variability of associated tools, miscellaneous cultural residues, and structural features. A basic two part distinction is first made between: (1) sites which exhibited, or were highly suspected of containing, evidence of multiple onsite activities, and (2) those sites which yielded evidence of onsite activities which were relatively limited in range. In essence, the first major category includes those sites where general, relatively long term occupation or shorter term but recurrent "base camp" occupation is indicated or suggested; the second major grouping includes those sites where aboriginal use appears limited to such activities as short term camping or specific resource procurement (e.g., isolated hearths, quarry sites, etc.).

The adequate determination of site function is recognized as being very difficult and rarely evident at the level of investigation implemented at McGregor Range. Although the current site classification system must in some manner address the issue of function, it should be emphasized that ascription of general (e.g., "village", "camp," or "cache") function is wholly open to subsequent change and refinement based on further work.

The following site categories are recognized at this time (known occurrences in parentheses):

Habitational Sites

Village complex, ceramic	(27)
Complex camps	
(a) Ceramic	(125)
(b) Non-ceramic	(23)
Rockshelters	(29)

Limited Activity Loci

Isolated hearths	(23)
Lithic scatters	(32)
Burned rock loci	
(a) Ceramic	(58)
(b) Non-ceramic	(46)
Quarry workshops	(5)
Rock circles	(4)
Isolated bedrock mortars	(3)
Isolated ceramic scatters	(3)
Exotic material cache	(1)

These initial site categories are further defined:

(a) Village Complexes. This type includes all suspected Formative Stage (ceramic) "village" settlements. Such sites are characterized by: an exposed areal extent of 3 acres or more; suspected or partially visible house remnants; dense scatters of ceramic and lithic artifacts; trash middens; observable discrete concentrations of particular classes of artifacts or features; and the presence of substantial quantities of nonportable artifacts. In addition, such sites are often located adjacent to a water source and extensive areas suitable for horticulture.

(b) Complex Camps (Ceramic and Non-Ceramic). Includes apparent multi-activity, open camps. Sites of this type may include macro-band seasonal camps for the pre-ceramic period, or "field house" style outlier camps dating from the ceramic period. Attributes include: areal extent less than 3 acres; no visible habitation remnants; dense scatters of ceramic/lithic or lithic artifacts; generally less extensive trash middens than "village" category; fewer activities indicated by discrete concentrations of specific artifacts or features; and the presence of grinding implements of readily transportable size. It is suspected that ramada-like temporary structures may have been present at some sites in this category.

(c) Rockshelters. Numerous rockshelters showing signs of occupation or utilization by prehistoric man were recorded on McGregor Range. Evidence of human activity included rock art

expressions, lithic or ceramic artifacts, structural features (e.g., hearths), and extensive ash midden deposits. At present, surficial evidence is insufficient to determine frequency or intensity of utilization.

(d) Isolated Hearths. Includes open camps apparently occupied for a short duration. This class is characterized by: the presence of one or more small, isolated concentrations of fire-affected rock or ash; associated sparse scatters of ceramic or lithic artifacts; the absence of nonportable ground stone, milling implements; and the absence of discrete concentrations of artifacts or features suggesting special activity loci. Exposures of buried hearths in arroyo cutbanks are included in this class. Generally, sites of this type are thought to represent limited duration camp sites for small groups or individuals engaged in hunting, gathering, travel, etc.

(e) Lithic Scatters. Includes a varied class of sites broadly distributed throughout the study area, and characterized by diffuse scatters of lithic artifacts, cores, flakes, and other debitage. The absence of ceramic materials and structural features is a shared characteristic. Areal extent ranges from a few square meters to an acre or more. At present, surficial evidence is too scanty to warrant a functional interpretation. It is suspected that some of the more extensive lithic scatters may represent the debris of many small groups or individuals returning to a favored area over an extensive time span. The location of most lithic scatters is in foothill or mountain areas possessing nearby exposures of naturally occurring siliceous rock.

(f) Burned Rock Loci. Includes a class of sites characterized by the presence of five or fewer specialized, discrete, burned rock features. Ring middens and large multiple-use hearths are the most common visible feature. Areal extent is generally less than 1 acre. Ceramic sherds and(or) lithic artifacts are often associated with these sites, although some examples lack any observed tools in association. Structural features suggesting extended habitation are absent. Discrete concentrations of specific artifact classes, implying multiple activities, are not observed. At present it is suspected that this class represents specialized vegetal resource procurement/processing stations apparently utilized on a seasonal basis.

(g) Quarry/Workshops. This class consists of five sites possessing natural exposures of siliceous rock, which exhibit signs of chipping and battering. Extraction and primary modification of lithic raw material is evidenced by the presence of quantities of chipping debris, flakes, and primary cores, associated directly with exposed veins or nodules of chert, etc.

In most observed instances it appears that cores produced at the extraction site were removed a short distance for the production of quarry blanks or tools.

(h) Rock Circles. Four sites exhibiting circular arrangements of rock were recorded. In most instances the features consisted of a single line of irregular pieces of limestone, arranged in a circular pattern. The diameter of these suspected habitation features ranges from 3.5 to 6.0 meters. In two instances, lithic artifacts and hearths are associated with rock circles. Some examples have no surficially observable associated artifactual material. At present, insufficient data precludes a functional interpretation, although a strong similarity to classic Northern Plains "tipi rings" is apparent.

(i) Isolated Bedrock Mortars. Three sites were recorded which exhibit evidence of human modification in the form of bedrock mortars or metate facets. Generally, no ceramic or lithic artifacts were associated. It is assumed that these sites once functioned as camps or processing areas.

(j) Isolated Ceramic Scatters. Three very small sites consisting of sparse scatters of surficially visible sherds were recorded during the course of the survey. These may represent chance breakage or loss, as no other artifacts suggesting a special activity were noted. Conversely, such scatters may represent the "tip-of-the-iceberg" and be the first portion of a larger site being exposed by active deflation. This must remain an enigmatic site type until future testing produces further information.

(k) Exotic Material Cache. A unique offering or cache of exotic shell, bone, crystal, and turquoise artifacts was recorded. At present, it is impossible to determine the exact function of this isolated and interesting site. It is hoped that further comparative work now in progress will yield more interpretive data.

(2) Historic Sites. The relatively sparse, widely distributed series of features dating from the historic period are represented by the sample of 21 defined sites. These sites, all of Anglo derivation and dating no earlier than the late 1800's, were documented in the field and researched in State and local archives (see "Consultations and Data Sources, appendix C) and with the assistance of local societies and knowledgeable individual informants. Additionally, nine other sites are known which require further inspection and evaluation. This research is now in progress; the results will be included in the final report of the survey team.

The sample of sites of historic age, although it is not a complete inventory, is considered to be much more extensive than

that represented by the sample of prehistoric sites and includes a number of ranch houses or house sites and associated outbuildings, remains of a four room school, remnants of mine construction, as well as many miles of a most impressive and still operating water transport system initiated by Oliver Lee in the early 20th century. The location of pre-military historic sites was carried out as an adjunct of the basic archeological reconnaissance through spot checking of structural features actually mapped on the available USGS and Army quads and with the assistance of local people.

(3) The Significance of Discovered Resources. The judgment of "significance" of cultural resources is very difficult and, in the last analysis, subject to considerable subjective opinion. This is particularly true for prehistoric sites when such an evaluation must be made largely on the basis of surficial examination and limited subsurface testing, as was the case in the reconnaissance of McGregor Range. It is somewhat ironic that the most effective methods for estimating the scientific or historic worth of an archeological site (e.g., extensive testing) are also the most destructive of the resource. Perhaps the most defensible stance to assume in site evaluation is to direct the judgment in answering the question: "To what problems of contemporary archeological interest might this site yield relevant information?", or, "What information does it likely contain which would be of importance in elucidating problems of local or regional prehistory?".

It can be safely assumed that all sites unless totally disrupted by natural processes or man-caused disturbance are of some possible interpretive or data yielding utility. Many sites, including some of those present on McGregor Range, are of such a nature that a mere systematic sampling of exposed cultural materials would likely exhaust their possible value. Others more intact, not necessarily larger or complex in character, may offer a high potential for yielding important information. The truth is, however, there exists no simple or self-evident guidelines for estimating significance or probable significance.

The reconnaissance of McGregor Range has yielded substantial evidence of human occupation dating to about 10,000 years ago. Probably, although this has yet to be demonstrated, the human use of the area has been essentially continuous over this long span--certainly the area contains substantial residues of human occupation and adaptation to changing conditions through much of this time. The prehistoric cultural resource, considered as a whole is of very substantial importance in evaluating the nature of culture change and to many other general categories of study important to current anthropology.

The cultural resources of McGregor Range exist in good condition currently; in the opinion of the archeological reconnaissance survey team they are in better condition than archeological resources in similar blocks of Federal lands devoted to multi or recreational use where easy and uncontrolled public access has led to unthoughtful, massive vandalism of the cultural resources. Army stewardship of this property with attendant restriction of public access has evidently been protective, though perhaps inadvertently, of archeological sites. However, as will be pointed out in the following section, many of the current military activities are taking their toll of archeological and historical sites.

Specific evaluations of the current inventory of archeological and historic sites will be contained in the final reconnaissance report.

In the opinion of the survey team, sites of sufficient merit to warrant nomination to the National Registry of Historic Places do exist on McGregor Range. Twenty two locations exhibit sufficient potential for yielding information of regional importance to justify such a distinction and, hopefully, the protective custody which accompanies this designation. These sites are listed in table I-2. An additional listing of prehistoric sites is probably eligible for such nomination although studies necessary to properly assess this potential were beyond the investigative potential of their reconnaissance. These sites are listed in table I-3.

Four sites of Late Historic age are also considered to meet National Register criteria. They are all domestic structures or structure complexes of regional importance. They are "Fleck's Dugout," "Old Ditch Camp," "Foster Ranch," and the "Ellis Wright Cabin."

It is the recommendation of the survey team that representative portions of Oliver Lee's pipeline be considered for listing on the National Registry of Engineering Sites.

TABLE I-2
Archeological Sites Considered Eligible
for the National Register

Site No.*	Type	Location
M85	Complex Camp (w/rock art)	Hueco Mtns.
M100	Complex Camp	Otero Mesa
M103	Rockshelter (w/rock art)	Hueco Mtns.
M125	Complex Camp	Sacramento Mtns.
M151	Village Complex	Otero Mesa Escarpment
M159	Village Complex	Tularosa Basin
M160	Village Complex	Tularosa Basin
M162	Rockshelter	Otero Mesa Escarpment
M163	Complex Camp	Otero Mesa
M165	Rockshelter (w/rock art)	Otero Mesa Escarpment
M320	Rockshelter (w/rock art)	Sacramento Mtns.
M363	Burned Rock	Sacramento Mtns.
M377	Village Complex	Tularosa Basin
M378	Rockshelter	Sacramento Mtns.
M405	Lithic Scatter	Sacramento Mtns.
M406	Rockshelter	Sacramento Mtns.
M407	Rockshelter (w/rock art)	Sacramento Mtns.
M410 (Escondida Site)	Village Complex	Tularosa Basin
M411	Village Complex	Tularosa Basin
M462	Complex Camp	Sacramento Mtns.
M481 (includes McGregor Site)	Village Complex	Tularosa Basin
M482	Village Complex	Tularosa Basin

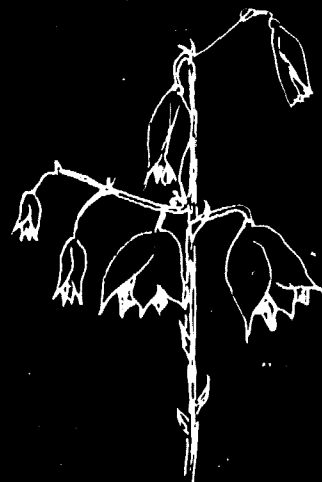
*Site numbers are temporary designations. Permanent designations will be assigned by the Laboratory of Anthropology, Santa Fe, New Mexico.

TABLE I-3

Archeological Sites Considered Probably
Eligible for National Register Nomination

Site No.	Type	Location
M12	Complex Camp	Hueco Mtns.
M27	Village Complex	Tularosa Basin
M31	Village Complex	Tularosa Basin
M44	Complex Camp	Hueco Mtns.
M47	Quarry-Workshop (w/rock art)	Hueco Mtns.
M72	Quarry-Workshop	Hueco Mtns.
M99	Complex Camp	Tularosa Basin
M104	Village Complex	Tularosa Basin
M105	Village Complex	Tularosa Basin
M106	Village Complex	Tularosa Basin
M108	Village Complex	Tularosa Basin
M112	Village Complex	Tularosa Basin
M115	Village Complex	Tularosa Basin
M120	Village Complex	Tularosa Basin
M144	Village Complex	Tularosa Basin
M150	Rockshelter	Otero Mesa Escarpment
M171	Village Complex	Tularosa Basin
M219	Complex Camp	Otero Mesa
M249	Complex Camp	Otero Mesa
M322	Complex Camp	Sacramento Mtns.
M323	Complex Camp	Sacramento Mtns.
M331	Burned Rock	Sacramento Mtns.
M332	Burned Rock	Sacramento Mtns.
M414	Village Complex	Tularosa Basin
M459	Complex Camp	Sacramento Mtns.
M461	Complex Camp	Sacramento Mtns.

LAND USE RELATIONSHIPS



SECTION II - LAND USE RELATIONSHIPS

2.01 Conformity or Conflict with Other Land Use Plans, Policies, and Controls.

a. Federal, State, and Local.

(1) Federal Programs. The Bureau of Land Management (BLM) and the US Forest Service administer and manage most of the land in the McGregor Range area. Both agencies have memorandums of understanding with the Army providing for co-use grazing on portions of McGregor Range. These agencies advocate multiple use management and sustained yield of renewable resources such as wood, water, wildlife, forage, and recreation. On McGregor Range, BLM is responsible for livestock utilization of the range and also the management of wildlife habitat on its lands (PL 86-797), and the maintenance of range improvements. The Forest Service is responsible for administering its lands for all nondefense purposes. This includes the issuance of all permits for uses and activities which are not related to defense purposes; the protection of lands and resources from destruction by fire and other forms of depredation including trespass, not incident to military use; the assessment and collection of fees for the use of lands; and the control of all archeological and paleontological activities on the land. The Army also has programs to increase the usefulness of the land and preserve the natural resources on Army owned lands.

(2) State Programs. The State of New Mexico has statutory responsibility for the administration of wildlife as stated in section I, paragraph (3), page I-18. This program will be affected by restricting access to the lands and will necessitate coordinating wildlife uses with military uses.

(2) State Programs. At the present time, neither Texas nor New Mexico has a state land use plan or policy; therefore, no state program in Texas or New Mexico would be affected by the McGregor Range land withdrawal renewal.

(3) Regional Programs. The regional governmental agency in Texas which has jurisdiction in the El Paso-Fort Bliss area is the West Texas Council of Governments (WTCOG). They have no land use plans that would be affected by the McGregor Range land withdrawal renewal. The regional governmental agency in New Mexico with jurisdiction in the McGregor Range area is the Southeastern New Mexico Economic Development District. Their land use plans are not affected by Army use of the range.

(4) Local Government Programs. The only local governmental agencies that could influence land uses at Fort Bliss would be the

municipal agencies of El Paso, Texas, and Alamogordo, New Mexico. The land uses of these municipalities, though not directly related to the uses of McGregor Range, are important because their trends and future uses will have an effect upon subsequent land use decisions at Fort Bliss that may affect the use of McGregor Range.

b. Clean Air Act and Federal Water Pollution Control Act.

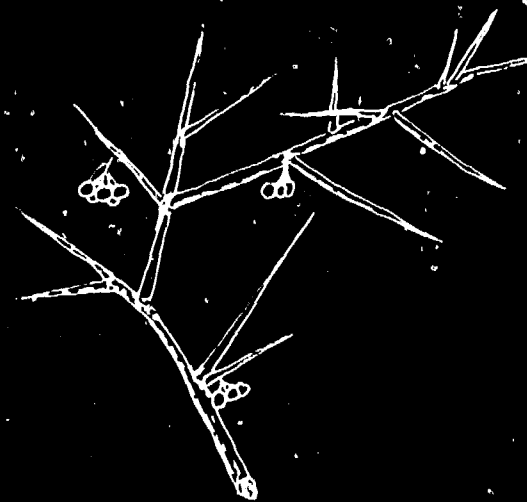
(1) The Clean Air Act Amendments of 1970 (PL 91-604). A discussion of air contaminants expected to result from Army use of the acquired land is included in Section III, Probable Impact of the Proposed Action on the Environment, paragraph 3.01b(1). The Army's use and the meeting of Federal and state air quality standards are also discussed.

(2) Federal Water Pollution Control Act Amendments of 1972. The impacts on the water quality of area streams and ground water expected from the continued use of the land for Army activities are discussed in Section III, Probable Impact of the Proposed Action on the Environment, paragraph 3.01b(2).

2.02 Conflicts and (or) Inconsistent Land Use Plans. Although there are no conflicts in land use plans and policies between the Army, BLM, and the Forest Service, there are problems of land use controls. The Forest Service and BLM and the military have experienced problems in the implementation of their plans and policies. The main problem is that access to the range is limited on days that missiles are fired. This lack of access causes inefficiencies in maintaining facilities; since BLM personnel are unable to get on the range on firing days, they are forced to do their work on weekends. Another problem is that the Army control of the range hampers livestock movement and interferes with hunting because of the limited access. Also, all other forms of public recreational use of the public domain land are eliminated with the Army withdrawal.

Extent of Reconciliation. In order to carry out the mission of Fort Bliss, scheduled missile firings are necessary on McGregor Range. Therefore, it is not possible at this time to alleviate all the problems encountered by BLM and the Forest Service regarding limited access to the range on missile firing days.

**PROBABLE IMPACT OF THE PROPOSED ACTION
ON THE ENVIRONMENT**



SECTION III - PROBABLE IMPACT OF THE PROPOSED ACTION ON THE ENVIRONMENT

3.01 Positive and Negative Effects.

a. Regional and National/International Environmental Effects.

The renewal of the withdrawal for the military use of McGregor Range is of regional, national, and international consequence because of the range's importance. Of the two air defense artillery centers in the world, McGregor Range is the only facility presently available in the free world. The requirements of the withdrawal for National Defense considerations are discussed in section VIII. However, an important economic aspect is the local income derived from personnel who are stationed or work at McGregor Range. These customers are a primary source of revenue for the few business establishments near the range. Also, since McGregor Range is imperative to the major missions of Fort Bliss, and because of the impacts of Fort Bliss on regional economic and social systems, the continued use of McGregor Range has great significance locally and regionally.

b. Impacts of the Proposed Action.

(1) General. Impacts of the proposed action on McGregor Range have been quantified wherever possible. Programs will be undertaken by the Army to monitor the ecological effects and changes resulting from its missions including the use of remote sensing analysis and the gathering of baseline data.

(2) Air Quality. At the present time, because there are no significant air pollution sources above and surrounding McGregor Range, the quality of the air is good. In addition, there are no planned military activities that could impose a significant air pollution burden on the air space above the range.

The air quality over and around McGregor Range is good. Particulate levels are high occasionally, but the Army's contribution to these levels is insignificant relative to the contribution made by nature. Background levels of hydrocarbons exceed standards, but these levels are similar to levels found in other rural areas of the nation which are adjacent to metroplexes. Ozone levels are high on the range at certain times, but there is no Army activity which can account for these ozone levels. It is believed that the ozone is formed over nearby urban areas and transported to the range by prevailing winds. It may be concluded that military activities do not significantly impact on the air quality of the area. Additional details concerning air quality may be found in appendixes A and B.

(3) Water Quality. Current military activities have no significant adverse impact upon the quality of either surface or ground waters. Sewage is treated in oxidation ponds, and most of this water evaporates. There is some overflow from the McGregor Range Camp ponds; however, as far as is known, this effluent does not enter any surface water. Most of it, too, evaporates.

(4) Noise Levels. Analysis of the noise impact from current military operations on McGregor Range clearly indicates that the large open land areas separating the noise sources from the population outside the installation boundaries serve as noise buffer zones. The results of this analysis serve as reinforcement for the past history of no complaints concerning noise generated by activity on the range. This does not preclude the occurrence of individual complaints for a particular operation or maneuver which specific residents may view as inordinately loud or offensive. However, based on current analytical procedures available for evaluation of subjective response to community noise, there should be no concentrated complaint behavior from current and future operations on McGregor Range. Appendixes A and B contain additional information concerning noise levels on the range. Noise effects on wildlife are unknown at the present time.

(5) Solid Waste. Most of the solid waste generated at McGregor Range is being handled and disposed of off range in such a manner as to protect the environment of the range. Most waste is buried at the main post landfill; only a small amount of construction debris is buried at the range. The metallic remains of missile and missile targets is being collected and hauled off the range by a scrap dealer and the metal recycled. The solid waste management program at McGregor Range is environmentally sound, for the most part, and does not have a significant adverse environmental impact, although some minor adverse impact is inevitable.

(6) Utilities. The evaluation of the utility systems on McGregor Range exposed only one secondary adverse impact on the local environment. Continued utilization of water by Fort Bliss and McGregor Range will have an adverse impact on the finite water resource for the city of El Paso. Because the existence and magnitude of use of Fort Bliss is related to the air defense missile mission and dependence on McGregor Range, there is an indirect correlation between the renewal of the land withdrawal and the use of available ground water for the area residents.

Letting the withdrawal permit lapse would have a positive impact on energy consumption if the McGregor Range facilities were closed. The utilities presently used would not be required, and the amount saved could be used elsewhere. There would be an adverse impact on the city of El Paso (water), Southern Union Gas Company and its supplier, El Paso Natural Gas Company, and El Paso Electric Company because of the potential loss of revenue from these utilities. The communication services which are now provided by the Army would no longer be required.

Renewing the withdrawal permit would have no adverse impact because of the insignificant amount of services required at present. Fort Bliss would continue to use and maintain these facilities as they have in the past. Positive impacts on wastewater, solid waste, and communication services are likely with the withdrawal renewal. The wastewater is contained on the range, and provides water for wildlife in the area where the settling ponds are located.

(7) Aesthetics - Landscape Management. The military uses of McGregor Range have very minor effects on the aesthetic beauty of the area because military activities are confined to the basin part of the range. In this area of sand dunes and scattered clumps of vegetation, the military maneuvers may disturb the local vegetation. The military can minimize disturbance by educating the units to try to avoid destroying larger vegetation, which is sparse on the range. Litter left by transient military units during large maneuvers could be an eyesore for years if care is not taken to assure that littering does not occur. Disturbed vegetation will recover naturally by revegetation, and blowing sand will tend to erase marks of track vehicle use. Another aesthetic consideration is the development and planning of structures designed to blend with the natural character of the McGregor Range environment.

(8) Ecological Balance. Three ecozones on McGregor Range are the primary impact areas of the military maneuvers held at Fort Bliss, Texas. The soil, vegetation, and wildlife in these areas (i.e., sand dunes, alluvial fans, and foothills) exhibit the accumulative effects of past exercises. Heavy off-road vehicles cut into, disrupt, and expose the soil to wind erosion. As a result, sand dunes are moved, other hummocks are formed, valley playas are filled with silt, and existing vegetation is smothered. The ultimate result could be complete soil loss.

The mesquite vegetation on the dunes has been impacted from mechanical crushing. Similarly, many species in the fans and foothills have been impacted and no longer provide the shade to lower temperature and hold soil moisture. Throughout this area, grasses continue to be replaced by weeds and shrubs. Recovery from these damages is slow and probably will not occur within a 10 year period. The net effect could be a reduction of overall species and ecological diversity.

The wildlife species are indirectly impacted from the loss of vegetative habitat for nesting, protection, and food. Many of the other burrows, which rodents and reptiles depend upon for protection from heat and predators, are destroyed. The decrease in the food resource (insects and rodents) could cause a similar decrease in the

predator species (coyote, badgers, foxes, and raptors). This human intervention could result in these animals moving into and overpopulating areas of less disturbance. Food and spacial habitat resources would not support this wildlife, and population declines affecting both immigrant and indigenous populations would occur, perhaps drastically.

The remaining vegetation and wildlife on McGregor Range does not appear adversely affected. There is no evidence that noise from military operations has any significant impact upon wildlife on the range. However, wildlife, including big game species as well as nongame animals, would be disturbed by fires and low flying aircraft.

Fires originating from hot missile debris have resulted in a temporary loss of vegetation and wildlife on McGregor Range. Short term effects of fires may include loss of wildlife, livestock, range improvements, and vegetation. Long term adverse effects on black grama vegetative types may occur.

In addition to the present staff, personnel in the Army's environmental office includes a biologist, an environmental engineer, a sanitary engineer and an archeologist, who will continue to give full assistance to BLM, Forest Service, and New Mexico Department of Game and Fish in wildlife and habitat management on McGregor Range. Past contributions have encompassed repairing stock tanks for needed water, maintaining interior and exterior fire breaks, and establishing food plots for dove, quail and rabbit populations. Among ecological studies funded for FY 78 is a track vehicle damage assessment using infra red aerial photography techniques to monitor effects of field training and maneuvering on the ecology of McGregor Range, which will provide data for mitigative measures.

There are no adverse impacts on the overall range forage conditions attributable to the livestock grazing practices or contract system conducted by BLM. In fact, the extensive improvements installed and maintained by BLM have been a tremendous asset to wildlife on all of the McGregor Range area. The habitat conditions for deer and antelope (i.e., browse, cover, water, and living space) can be improved as a result of the inventories, analyses, and recommendations for upper McGregor Range and Otero Mesa. Utilization of the grazing leases has not reduced the incidence of fires on the range, but has aided in confining the fires to smaller areas. In addition, the Conservation Grazing Management System has not resulted in any significant adverse impacts on soil erosion, soil moisture, or to forage competition between livestock and wildlife.

The New Mexico Department of Game and Fish provides beneficial impacts on the ecological balance of the range through game management by determining bag limits for all species of wildlife within the New Mexico area of the reservation.

Federal and State lists of endangered or threatened plant and wildlife species that may occur on McGregor Range are found in section A-8, appendix A. Maneuvering and fires would impact adversely on these plant and wildlife species by killing them or destroying habitat. Maneuvering may help propagate one plant species, Opuntia arenaria, by spreading its pads, but too frequent maneuvering could harm the species. To date no Army caused fires have occurred in the possible habitats of Argemone, Astragalus, Limonium, Rosa, and Perityle. The effect of fires upon the species and degree of species' specific fire tolerance is not known at this time. Fires could remove or destroy prey species of the three endangered snakes, and individual encounters with troops usually result in death of the snake. Impact upon Cynomys may result from grass fires. Impact of fire on prairie dog communities is conjectural at this time. Whether or not the grass within the town would burn, due to its sparse, grazed aspect is unknown. Whether, after a fire of under 100 or so acres burned near a town, these animals would be capable behaviorally of moving to untouched areas is also not known at this time. Larger burned areas, especially over several 1000's acres, could possibly eliminate the colony if their food sources are burned out, especially in the dry season. Most of the larger fires seem to have been caused by lightning on the mesa. Although the Army's mission may increase the frequency of fires, the mitigation in the form of the fire fighting brigade and helicopter transportation may reduce considerably total areas burned over that total burned by lightning in the past.

Impacts upon prairie dogs will impact all the greater upon the black-footed ferret, if present. Impacts upon the prairie dogs could be disastrous in view of their low densities upon the mesa.

Impacts upon the peregrine and Aplomado falcon probably would be indirect and center upon prey species' densities which could be affected by habitat alteration due to maneuvering. It is unknown at this time whether maneuvering long-term would actually cause sufficient habitat alteration to reduce prey species' densities.

The Mississippi kite and Mexican duck may be occasional wanderers into McGregor Range. Impact of Army missions on these species would probably be insignificant.

Impacts upon the gray wolf are not known at this time, although since maneuvering is restricted to the basin, impact may be indirect if such animals exist upon the mesa.

(9) Soils and Geology. The nature of the dry climate and the soils which have formed on the surface of the Tularosa and Hueco basins have made ideal conditions for sand dune development. Man has influenced this process by overgrazing the area which once supposedly had more grass than presently exists. This, along with drought conditions, started a process of dune development. The soils of McGregor Range, sandy loams, fine sands, and silts, are very susceptible to wind erosion. The dunes have been stabilized by clumps of vegetation, and where these clumps are disturbed, the soil erosion will be more severe. Because surface uses by the military are limited to the Tularosa-Hueco basins, this is where the potential for an influence on the erosion process exists. If vehicles are not concentrated in one area where maneuvers are to take place, the impact of this use will not likely be significant. If, however, tracked vehicles are not dispersed over the area, they could cause disturbance to vegetation which would allow erosion of the soils to accelerate. If a clump of mesquite with assorted forbs and annuals is crossed by a track, it will not be destroyed. However, if it is devastated by numerous tracks, the effect will be much more significant. Otero Mesa and the mountainous area where Forest Service lands are located are not disturbed by military activities, and through those agencies' conservation efforts and controlled grazing programs, soils are more stabilized than they would be otherwise.

The use of McGregor Range for missile impact area has no effect on the soils on the range. The effect of military use on the soils of Otero Mesa will be minimal because vehicles will be restricted to established roads. If they were used, the delicate ecological balance could be affected to the point that severe soil erosion would take place, as well as an adverse effect on the capability of the soils to support the BLM grazing program.

The value of deposits of gypsum, dolomites, sand, and gravel is evident at McGregor Range. So long as the military withdrawal is in effect, these resources will remain in reserve. At the present time, there are no critical shortages of any of these elements; therefore, no recognized need to mine on the range. The commercial mining

of materials is not compatible with the military mission at McGregor Range, but if the land is returned at some time in the future to public domain, the materials would become available for exploitation. The impact of the present mission of Fort Bliss for McGregor Range on the geologic or soils resources is minimal to nonexistent. It is not known if commercial quantities of oil or gas or other energy sources such as geothermal reservoirs are available on the range. A survey of energy sources is desirable because of the national demand for and shortage of energy, and there will likely be a Federal study of these resources in the near future. If a geothermal reservoir underlies the range, an impact to that reservoir would be the gradual loss of heat by either conduction or convection if it were not utilized. The base and precious metal potential of the McGregor Range has not yet been determined and consequently project impacts on this facet of the mineral sector cannot be quantified. A mineral survey will provide an indication of the metallic mineral values present.

(10) Area Institutions. There are no known adverse impacts on area institutions, educational, religious, business, social, financial, health and welfare, enforcement and others, related to the renewal of the withdrawal permit. However, there would be positive impacts on most of these institutions.

Letting the withdrawal permit lapse would result in adverse impacts of various degrees and significance. McGregor Range is vital to the mission of Fort Bliss. Without the range, there would likely be a reduction in forces at the installation. With this occurrence, institutions would be adversely affected since up to about 100,000 persons could be involved. Local business institutions would lose revenue as members and users moved from the area. There would be a loss of many of the 9,000 school age dependents of military personnel from the local school districts, economic loss to the area's part of the \$370 million military payroll (1975), loss of employment for at least a portion of the 7,000 civilian personnel who work at Fort Bliss, and effects on the assistance provided to approximately 47,000 military retirees and their dependents. Other adverse impacts would include reduction of effective fire protection on McGregor Range provided by Fort Bliss and loss of assistance by evacuation helicopters in public health emergencies. The loss of McGregor Range and the air defense center would reduce national defense capabilities.

The continued use of McGregor Range by Fort Bliss will affect the growth and increase of memberships in associations and organizations in the El Paso area. If a reduction of forces at Fort Bliss occurred, memberships

would probably decline. The numbers of persons who would be involved in the movement away from the El Paso area would depend on several factors. These are factors that would be considered by the Department of Defense in planning the future use of Fort Bliss without McGregor Range. There is a direct correlation between the population growth of Fort Bliss and the city of El Paso. If the military force at Fort Bliss remains relatively stable as it presently exists, there would be a higher growth rate for the city than there would be if the installation never existed. The influence on the population is a result of the economic business generated by the installation. This economic impact also affects population growth and the support institutions and resources for the city.

(11) Socioeconomic Balances. If the Land Use Withdrawal for McGregor Range is renewed, there will be few changes to local economies, social and cultural systems and activities in the small communities surrounding the range, in the El Paso SMSA, or in Otero County. Growth in payrolls at Fort Bliss will continue to support the local economies; and, as payrolls expand, the economic situation in the El Paso area will strengthen.

McGregor Range supports the air defense artillery mission at Fort Bliss, the only center for such training in the United States. The withdrawal renewal is, therefore, related to the very existence of the present major mission for the installation. Without the range, the mission would certainly have to change to some lesser magnitude in personnel and budget. The estimated 1975 impact of Fort Bliss was about \$370 million, through contracts as well as employee payrolls. About 28,000 military and civilian personnel and their dependents have a far-reaching effect on local communities both socially and economically. About 100,000 people are supported to some extent by payrolls and facilities at Fort Bliss. If the withdrawal were not renewed, El Paso, Otero and El Paso Counties, and the smaller communities around McGregor Range would be adversely affected by reduced economies and increased unemployment.

Otero County is a major center for Federal spending. The only other major industry base for the county is the production of cattle. In 1974 the Federal contribution to the county's economy was approximately \$50 million. At the same time, the livestock inventory accounted for about \$10 million. The Federal income of the county would be affected if the withdrawal were allowed to lapse, but not to the extent that the El Paso economy would likely be affected.

Letting the withdrawal permit lapse would have an adverse impact on the communities of Orogrande, New Mexico and Newman, Texas in that there would be a displacement of people, those individuals who would lose their jobs at McGregor Range and would have to move elsewhere to find employment; and the disruption of established communities when people move from present residences to other places. The few business establishments in these small communities would also lose revenue as a result of closing McGregor Range to military use.

Renewing the withdrawal permit would have no impacts on the displacement of people and disruption of established communities in the immediate area. There could be adverse impact on public health and safety if there were an accidental missile misfiring at McGregor Range. The US Army plans and provides security and control measures, but there remains the possibility of an uncontrolled firing and (or) mishap that could result in a hazard to the public health and safety of the area residents. These impacts associated with the McGregor Range operations and its continued existence must keep the risks at an acceptable level and balance them with the expected benefits.

The improvements in the area of McGregor Range, such as the highway systems, could result in secondary effects such as residential and industrial growth which may create substantial pressure on available water supplies and wastewater treatment facilities. These secondary effects may be more significant than the project's primary effects.

(12) Recreational Areas. The proposed McGregor Range land withdrawal renewal will not have an impact on the Fort Bliss recreational activities and facilities. The recreation activities on the post are widely varied, and the majority of the facilities are well developed. If the McGregor Range withdrawal permit is renewed, the lands will not be available for public outdoor recreation uses. The military uses of the lands will preclude all but limited public hunting. However, should the military use of the range terminate, the resources present there could be utilized by the public except in areas where unexploded ordinance may exist.

(13) Multiple Use of Space (Timber and Grazing Management). The McGregor Range land withdrawal renewal will not have an effect on timber and grazing management on the range. Adverse effects to the land are experienced in the maneuver areas as a result of training operations, but the fragile ecosystem of the mesa and adjoining areas is left untouched by agreement between the US Army, BLM, and the Forest Service.

(14) Probable Impacts of Toxic Materials. Toxic or otherwise hazardous substances used on McGregor Range include insecticides, rodenticides, petroleum products, battery acids, and hydrazine. These materials are used in very small quantities and in an environmentally safe manner. Some environmental impacts will be felt from the use of these materials, but the hazards will be slight.

(15) Explosive Ordnance. In the course of conducting military training that employs the use of explosive ordnance, an unquantifiable amount of unexploded ordnance will result. Such action ultimately results in "seeding" affected areas to the extent that any land use of these areas other than current military uses must be contingent upon clearance or deduinding operations. Within the framework of current technology, clearance or deduinding operations may be prohibitively costly. A large portion of affected areas has been impacted in this manner. This action will impact also on the soil, vegetative, and wildlife resources because of the destructive nature of exploding ordnance.

(16) Energy Resources. The range camps are currently supplied with the most efficient and inexpensive forms of energy available to McGregor Range, and the usage of these energy sources does not place a significant demand or impact on the resources of the region. Energy sources of all types are used in insignificant amounts relative to usage in nearby urban areas. This energy is used in an environmentally safe manner, and hence, has no significant impact on the local environment. Another important point to note is that vehicle fuels used on the range will be used somewhere else if they are not expended on McGregor Range; hence, the net impact on the nation's fuel reserves remains the same. McGregor Range has potential for oil, gas, and geothermal energy deposits. Although the military mission on the range has no effect on these reserves, the growing national demand and shortage of resources may make their exploitation desirable. If a geothermal reservoir underlies the range, the gradual loss of heat would be an impact of military use. Their use of the range keeps it from being used for solar energy production, although in the region there is a multitude of open land to take advantage of this energy source.

(17) Archeological and Historical. The sources of the adverse impact on cultural resources are varied, but generally take the form of weapons impact and recovery, surface maneuvering by heavy tracked or wheeled vehicles, and uninformed relic collecting by unauthorized civilian or military personnel. Vandalism and relic collecting by non-military personnel trespassing on the range is an additional source of adverse impact. The effects of specific military activities upon the discovered archeological and historic resources are discussed below:

(a) Air Defense Mission.

1. Surface-to-air firing of missiles. Surface-to-air missile firing has little observable adverse effect except disturbance of the ground by booster impacts in the launcher facility areas, and vehicular disturbance of soils by missile debris recovery crews.

2. Surface-to-surface firing of missiles. Surface of such missiles is moderately damaging to the archaeological resource.

3. Surface-to-air firing of anti-aircraft guns. The major effect of aerial firing of these guns is to "salt" large areas with unexploded ordnance, making it extremely hazardous to conduct archeological survey or excavations on sites within firing arcs-effectively removing the resource from scientific investigation.

4. Surface firing of anti-aircraft guns. Firing these weapons at surface targets badly disturbs archeological sites within the firing arc, and "salts" the area with unexploded ordnance.

5. Air-to-ground firing of 20mm shells and 40mm rockets. This activity badly disturbs archeological sites within the aerial gunnery range. The proliferation of unexploded ordnance makes the area extremely hazardous for future survey or excavation.

6. Range maintenance activities. Various activities associated with maintenance of range missile launch facilities, access roads, dud pits, etc., have been shown to have an adverse impact on archeological resources in the past.

(b) Ground Maneuver/Field Exercise Mission. Activity associated with the use of McGregor Range for field exercises and desert warfare training has been isolated as the single most destructive source of adverse military impact on the prehistoric and historic resources. Since archeological sites in a fragile arid environment are particularly susceptible to disturbance or destruction by heavy tracked or wheeled vehicles, surface maneuvers are the greatest potential threat to the cultural resources of McGregor Range. Sources of adverse impact associated with surface use of McGregor Range include:

1. Periodic field exercises by elements stationed at Fort Bliss. Primary impacts include destabilization and accelerated erosion of archeological sites due to heavy vehicle disturbance of soils and ground cover; the digging of firing positions, sub-surface disturbance associated with camping activity and (possibly) uninformed relic collecting field personnel.

2. Large joint training exercises (e.g., Gallant Shield) in which mobile units from other installations participate in maneuvers over large portions of the range. Adverse impacts associated with such large exercises are similar to those cited for smaller maneuvers; multiplied to correspond with the greater numbers of heavy vehicles and personnel involved. The impact of such exercises is probably increased by the attempt to simulate combat conditions. Units are widely dispersed over the central basin area, and maneuvers are often carried out at high speed. Given the scale and conditions of this activity it is not possible to avoid damaging archeological and historic sites even if their location were known.

3. Periodic use of portions of the range for survival training by airborne units, Army Reserve units, and National Guard personnel. Adverse impact is limited to arbitrary off-road use of heavy vehicles, and small scale ground disturbance associated with camping activities. Uninformed relic collecting or vandalism creates a possible associated adverse impact.

(c) Private Collecting - Vandalism. A third major source of adverse impact on archeological and historic resources is widespread unauthorized relic collecting and vandalism resulting from the difficulty of effectively controlling access to so extensive an area. Such activity ranges from random surface disturbance of sites by military personnel using the range to actual site specific digging and trenching carried on by unauthorized civilian or military relic collectors. The area of greatest observed disturbance of this kind lies north of New Mexico Route 506. In one case screens and digging equipment were discovered in a badly damaged site where they had been abandoned by artifact collectors. On other occasions survey teams frightened off relic collectors in the act of looting sites. Since much of this activity is carried out by amateur "pot-hunters" it tends to focus on large, easily observed ceramic period sites. The negative effect of periodic uninformed digging on archeological sites cannot be overstressed. Given the fact that unauthorized collecting is carried out on a year-round basis, it ranks with armored vehicle maneuvers in magnitude of adverse impact.

c. Mitigating Measures. The following mitigating measures are recognized and accepted by the Army as methods of reducing some of the impacts associated with the renewal of the land use withdrawal and the related military use of the range.

(1) Management Measures Agreed to by the Army.

(a) Only dead foliage will be used for camouflage.

(b) Trees will not be felled except as authorized by the commander.

(c) Flora and fauna will not be intentionally destroyed.

(d) Maximum use will be made of established tank trails and range roads for administrative moves and road marches.

(e) Training and exercise areas will be policed thoroughly after each use. Foxholes and emplacements will be filled upon completion of the training to prevent unnecessary erosion.

(f) Climatic conditions may dictate restrictions on the types of ammunition to be fired during portions of the training year to minimize the danger of fires.

(g) Garbage and rubbish will be returned to the cantonment area and disposed of in accordance with established procedures.

(h) Maximum utilization will be made of established field latrines in training areas. Strict field sanitation and medical standards will apply.

(i) Soakage pits for washing and kitchen liquid waste will conform with field sanitation and medical standards.

(j) Livestock will not be molested.

(k) Gates will be left as found.

(1) Hunting by personnel engaged in maneuvers is prohibited. All hunting of protected species is prohibited except as provided by New Mexico Game Commission regulations.

(m) Bivouacs will not be established within 500 yards of water tanks, dwellings, wells, or other installations, 100 feet of designated boundaries of airstrips, and 25 feet of gas lines.

(2) Proposed Changes to the Cooperative Agreements as Mitigating Measures. (The full text of proposed changes can be found in appendix D.)

Co-Use Grazing

(a) The Army will be responsible for fire control on McGregor Range. On Otero Mesa or contiguous areas used for grazing, the Army will take reasonable fire suppression measures immediately and will notify BLM upon detection when fire threatens these areas.

(b) Funds contributed by the Army in a reimbursable funds account managed by BLM and collected from grazing contract fees will be used to support livestock forage, wildlife habitat, and maintenance of range improvements programs. Projects using these funds normally will include fence repair, firebreak maintenance, road maintenance related to grazing use, perimeter signs, wildlife habitat, and water developments.

(c) Improvements constructed by grazing contractors under range improvement permits will be removed or left for future management needs on livestock grazing units at the discretion of BLM which will authorize such improvements within McGregor Range. The Army will have approving authority for all projects outside grazing units on the range and may require BLM to remove such range improvements where mission requirements dictate and alternatives to removal are not feasible.

(d) Management responsibility for all cultural resources will be retained by BLM for all their projects, wherever situated, and for Otero Mesa and other grazing areas. The Army will have primary cultural resource management responsibility over all other withdrawn lands except National Forest lands which will be managed by the Forest Service.

(e) Any new grazing units developed within the co-use area will require coordination with, and approval by, the Commanding General of the Center.

(f) The Army will prohibit vehicular traffic off existing roads on Otero Mesa and grazing units except in case of emergencies. No field training exercises using such traffic will be conducted on grazing units.

(g) Range improvements will include but not be limited to joint maintenance of exterior fire breaks for McGregor Range grazing units by the Army and BLM. A coordination meeting initiated by BLM will be held during February each year. BLM will maintain interior fire breaks for the grazing units.

Conservation and Development of Fish and Wildlife Resources

(a) The Fish and Wildlife Service, BLM, and the New Mexico Department of Game and Fish will coordinate fish and wildlife management within the co-use area with the US Army Air Defense Center. The New Mexico Department of Game and Fish will be responsible for wildlife management; the BLM will be responsible for wildlife habitat management; the Fish and Wildlife Service will have the responsibility for predator control initiated by BLM, and for advising BLM in regard to endangered species habitat management; and the US Army Air Defense Center will have the responsibility of access and safety.

(b) An annual meeting of all parties to the agreement arranged for by BLM will be held following the yearly survey to discuss the research, future development, and management programs of wildlife resources.

(c) BLM will represent the Secretary of the Interior under PL 86-797 with liaison between BLM and the Fish and Wildlife Service regarding lands in McGregor Range covered under the Co-Use Agreement.

(d) A resident license to hunt surplus wildlife on the part of McGregor Range lying in New Mexico and recognition as being subject to purchase of a resident hunting and fishing license will be allowed military personnel residing on the range 90 days prior to purchase. Other military personnel can buy the military license good on McGregor Range only or a nonresident hunting or fishing license that would be statewide. Annual permits issued for big game hunting on McGregor Range will be on a drawing basis with no military/civilian breakdown on available permits.

(e) Representatives of the Army, the Department of the Interior, and BLM will resolve questions of wildlife habitat management by conference.

(f) All predator control activities on grazing units within McGregor Range will be coordinated with parties to this agreement. A qualified health agency will verify the need for predator or other animal control for health and disease reasons (bubonic plague, rabies, etc.) which will be requested by the Army from the responsible agency.

(3) Archeological Mitigating Measures For the Proposed Action.

(a) Retain a post archeologist to coordinate and develop an incremental intensive inventory and mitigation program designed to provide the degree of cultural resource management required by Federal regulations.

(b) Conduct evaluation surveys of areas to be affected by ground disturbing construction, maintenance, changes on missile impact zones, or the development of new firing fans. Initially restrict heavy vehicle use to existing maneuver areas south of McGregor Range Camp. Gradually expand the available maneuver space northward as incremental intensive inventories and mitigation are completed in portions of the lands to be affected.

(c) Define specific archeological and historic sites or districts to be avoided, on the basis of the existing and future cultural resource management data.

(d) Within the context of a cultural resources management program, conduct excavations and surface collections of archeological and historic sites discovered during the preliminary reconnaissance survey and subsequent incremental, intensive inventory in the lands to be affected by surface maneuvers.

(e) Preserve and protect those cultural resources identified as having potential National Register eligibility. (See appendix C).

(f) More effectively control relic hunting and vandalism. The following measures should be enacted to meet this objective:

1. Limiting access where possible through road closures and locking gates;

2. Increasing guards and patrols in areas of public access;

3. Informing civilian and military personnel of protection afforded cultural resources through Federal laws.

(g) The requirements of 36 CFR 800 will be met.

(4) Rare and Endangered or Threatened Species Mitigating Measures. Ecological management programs are being formulated which will insure the preservation and protection of endangered species. Early goals of this program are the identification and location of these species and their habitats, and the development of measures to insure their preservation.

ALTERNATIVES TO THE PROPOSED ACTION



SECTION IV - ALTERNATIVES TO THE PROPOSED ACTION

4.01 Alternatives that Might Enhance Environmental Quality.

a. No Action - Letting the Withdrawal Lapse. If the Army did not initiate action and show reason for renewing the withdrawal permit for McGregor Range, the land would revert to BLM and Forest Service administration, according to Public Land Order (PLO) 1470, as amended by PLO 1547, at midnight, 20 August 1977.

(1) Impacts on the Human and Natural Environment. With this alternative, all present impacts of military use of the range would be removed. The effects of military vehicles and other activities on ecological systems, edaphic (soils) impacts, on the grazing use of the range, and on open public use of the range would no longer occur. The air, noise, and water quality impacts from military use of the range have been shown to be insignificant, but the impacts caused from the solid waste of missile debris would also be removed. The effects of surface uses such as maneuvers and exercises on vegetation, wildlife habitat, and soil erosion would no longer occur with this alternative. More of the range area would also be available for grazing leases through BLM programs. With this alternative, the public would gain more access to the lands for recreational purposes. There are portions of McGregor Range which have excellent potential for hiking, camping, backpacking, sightseeing, nature study, and various other outdoor uses.

A residual danger to future users that would occur through military use of McGregor Range if the withdrawal were dropped and the range became public domain is the presence of duds from past firing of all types of artillery weapons. These duds lie in many parts of the range lowlands. Dedudding would be impossible because of the scale of firing activity and the lack of specific location data.

(2) Impacts on the Mission of Fort Bliss. With this lack of action the Department of the Army would lose their only large guided missile training and testing center. Fort Bliss, and specifically McGregor Range, is the air defense missile center for not only the United States but also most of the free world countries. Air defense training of this nature takes a large land mass and technical base, and neither of these are available in the smaller countries which are our allies. Students from 15 different nations train on McGregor Range. Also, Meyer Small Arms Range is located on McGregor Range. It is the only small arms range for Fort Bliss. McGregor Range is also used in conjunction with Dona Ana Range and White Sands Missile Range (WSMR) which adjoin it. The use of McGregor Range and Dona Ana Range in combination creates the most extensive single training and maneuver area in the United States.

This area covers desert, plains, and mountains, but most important at the present time, it approximates the terrain of the deserts of the world. Without McGregor Range, the mission of Fort Bliss would certainly have to change. If the installation closed, the local economies would lose the input created by the military payroll of more than \$370 million yearly. Also lost would be jobs for over 7,000 local civilians who work on the installation and curtailment of assistance provided to approximately 47,000 military retirees and their dependents. The impacts of this alternative would be significant locally, regionally, nationally, and internationally.

b. Using White Sands Missile Range for the Activities on McGregor Range. This alternative concerns the use of the WSMR for the tactical type firing that is presently undertaken on McGregor Range.

(1) Impacts on the Human and Natural Environment. Like the no action alternative, moving the tactical missile training from McGregor Range to WSMR would remove the impacts of military use from McGregor Range and open it for limited public uses and an expanded grazing program. The military impacts on vegetation, soils, wildlife, and cultural resources on McGregor Range would no longer occur. Certain portions of the range would be open to the public for recreational uses where portions of the range could be certified as dud-free. The alternative would transfer the impacts which occur from missile firing on McGregor Range and impose them on the White Sands range.

(2) Impacts on the Mission of Fort Bliss. WSMR was established for the research and development (R&D) of missile and other systems for the US military arsenal. It was never intended as a facility for tactical unit firing practice or training. WSMR currently has an extensive annual firing schedule for their mission, and the addition of the tactical missile firing for which McGregor Range is used would overtax their land and facility resources. A fully scheduled commitment of the R&D missions precludes the use of WSMR for tactical missile firing. Moreover, WSMR does not contain the facilities necessary to support the additional load of tactical training. Construction of these facilities even if feasible would be extremely costly. The training exercises which are conducted at McGregor Range would no longer be feasible with this alternative, and the same situation would exist for the interservice agreement between the installations for across boundary missile firing.

c. Locating a Range for Missile Firing and Surface Maneuvers Elsewhere. This alternative would require the withdrawal or acquisition of another land area of the approximate size and configuration as McGregor Range to use for the tactical missile testing and training that takes place at McGregor.

(1) Impacts on the Human and Natural Environment. The impacts of military use of McGregor Range would also be removed with this alternative. Effects of military maneuvers on soils, vegetation, wildlife, and cultural features would no longer occur. McGregor could then be opened to public recreation in selected areas, and BLM could expand their grazing program. National Forest use by the public would also be less restricted with all the alternatives which would release McGregor Range from military uses.

(2) Impacts on the Mission of Fort Bliss. Finding an area which approximates the size and terrain characteristics of McGregor Range would be a difficult task. There are no military installations which are not currently being used for an important mission that could meet the requirements of even a missile firing facility. The cost of replacing McGregor Range, which covers about 1,000 square miles, with purchased lands would be very expensive. However, there are other large acreages of public domain land in the western states that could be considered for a land use withdrawal. They would have to be chosen to approximate the conditions as available on McGregor Range in order to meet the present Army missions.

4.02 Alternatives that Might Avoid Some or All Adverse Impacts.

a. Renew the Withdrawal as Presently Exists with BLM and Forest Service Cooperative Management. This is the alternative proposed by the Army, to renew the withdrawal and insure that they will retain future use of the public domain lands.

(1) Impacts on the Human and Natural Environment. This alternative represents military use of McGregor Range as at present, with surface maneuvers limited to the lowland portions of the range. Many of the environmentally critical areas such as the mountains and Otero Mesa would therefore be avoided in military maneuvers. However, surface uses with heavy vehicles in the lowland areas would cause soil erosion, destruction of vegetation, and the disturbance of wildlife. Cultural resources would also be affected in this area. Management agreements between the agencies involved will insure many of the potential impacts of military uses of the range will be minimized.

(2) Impact on the Mission of Fort Bliss. This alternative would allow the continuance of the air defense mission for Fort Bliss, and also allow surface maneuvers on the basin portions of the range.

b. Renew the Withdrawal with Army Managing All Land Uses on McGregor Range. At the present time, co-use management agreements cover several aspects of the land uses of McGregor Range. This alternative would place the management of all the range lands and uses under the Army.

(1) Impacts on the Human and Natural Environment. The original public land order removing McGregor Range lands from public domain recognized land uses that would not conflict with the military use of the range. Those uses included grazing, wildlife habitat management, controlled public hunting, forest management, watershed management, water supply, soil conservation practices, game herd management, and related subjects. With this alternative, the Army, Fort Bliss, would need to maintain all of these other multiple interest activities on the range. The range has good potential for wildlife uses and livestock grazing, and BLM and the Forest Service have responsibility for such uses of public domain and national forest lands. They have the funding for programs and personnel to cope with the records and requirements for these uses. The State of New Mexico manages the game herds in cooperation with BLM, the Forest Service, and the Army, and habitat improvement methods are cooperatively undertaken. The impacts of military use would continue with this alternative, including the destruction of vegetation, the disturbance of wildlife, and the possible destruction of cultural artifacts, as well as soil erosion in the basin portions of the range.

(2) Impacts on the Mission of Fort Bliss. This alternative could possibly enhance the use of McGregor Range for meeting the missions of Fort Bliss because more of the land could be utilized for maneuver purposes, but this would increase the environmental impacts on the natural resources of the range to a great extent.

c. Renew the Withdrawal with Army Gaining Rights to Maneuver Over Entire Range. Units from Fort Bliss and other installations as well as reserve and national guard units have utilized McGregor Range for maneuvers and exercises. These surface activities have been mostly confined to the desert lowlands part of the range. With this alternative, the mesa and mountainous parts of the range would be available.

(1) Impacts on the Human and Natural Environment. With this alternative the impacts of Army surface use would extend to Otero Mesa and the canyons and slopes of the Sacramento and Hueco Mountains. Resulting impacts on soils, vegetation, and wildlife would be severe. The sloping parts of the range have thin soils which are extremely erosion-prone. Disturbance in these areas would upset ecological balances possibly irreversibly. With soil erosion from heavy vehicle use, vegetation would also be removed from the slopes. This would multiply the impact on the balance, allowing more erosion to occur and a loss of important wildlife habitat. These are the edge areas of the range, where transitions occur from one terrain type to another. In these locations, diversity of species is most evident. Disturbance of the mountain and mesa portions of McGregor Range could cause highly undesirable impacts on the human and natural environment.

(2) Impacts on the Mission of Fort Bliss. This great variety of terrain would make the range more desirable for surface maneuvers, and the overall size of the area in coordination with the adjoining Dona Ana Range would make the complex the largest training facility in the United States. Such an area would be very valuable as virtually the only place that the Army has to perform multidivisional scale exercises. This situation would allow very realistic exercises that would be valuable to the professional, well trained modern Army.

d. Renew the Withdrawal Without Forest Service Lands. With this alternative the land withdrawal would cover public domain lands but exclude the 18,004 acres which are part of Lincoln National Forest.

(1) Impacts on the Human and Natural Environment. Impacts on the Army use of National Forest lands on McGregor Range are concerned with the impact of missile debris and the restrictions on access imposed by the Army closing the range for firing. Lincoln National Forest personnel keep a constant vigil for such fires and have crews available for such problems. This alternative would keep the Army from using the forest land for secondary danger zone and occasional missile impacting. The fire hazard of such practices would be removed. Public access for recreational use of all the forest lands would therefore become available, and the closing of these lands because of the danger from missile firing would no longer occur. Deer habitat could be improved by the Forest Service because of more ready access to hunters. Surveys have shown that an over-abundant deer herd is maintained in this area. This alternative would benefit the Forest Service in the administration of their land and multiple use management program. There would be less complications in grazing, oil and gas leasing, timber and wildlife habitat management, and public recreational uses of the Forest Service lands.

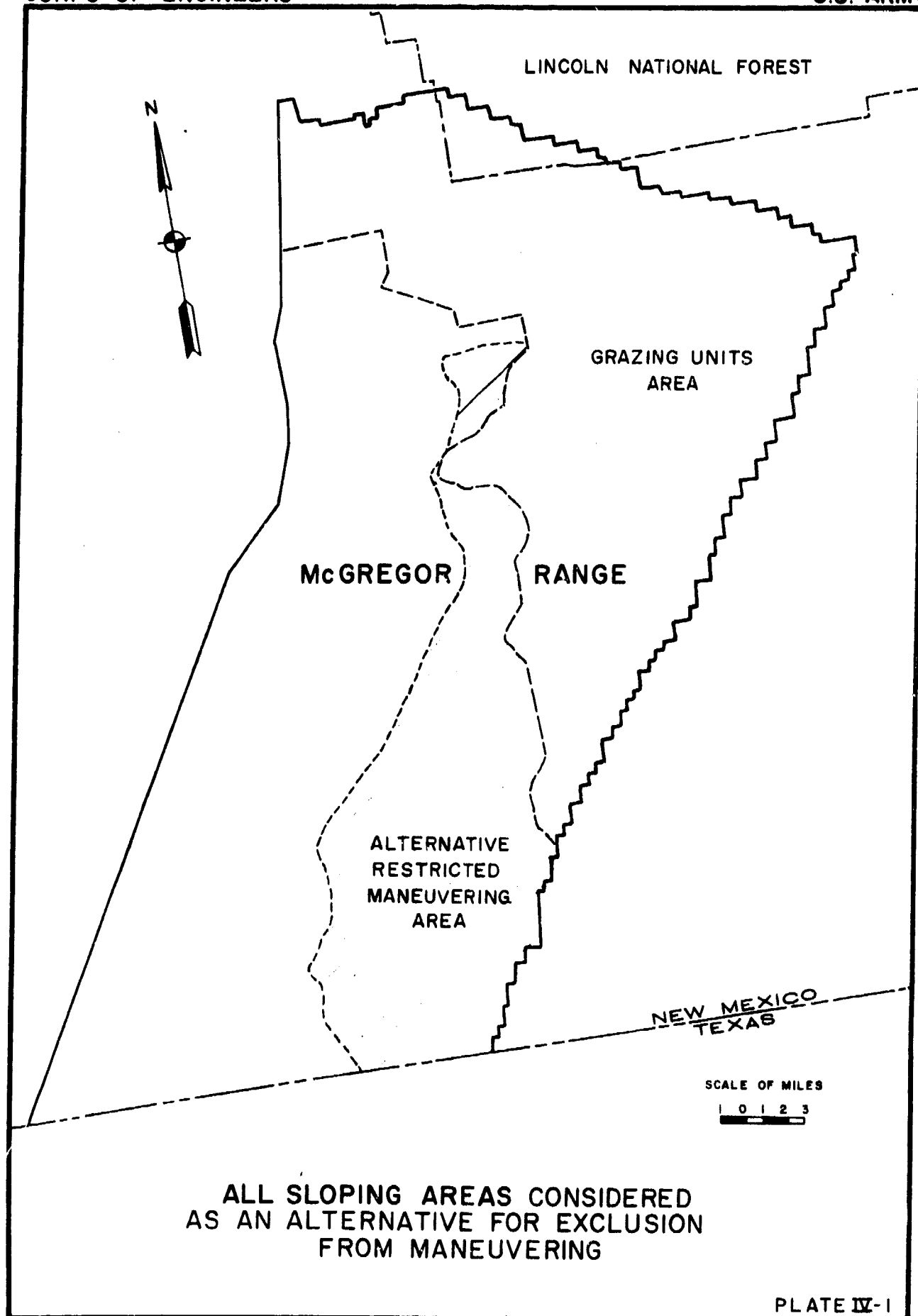
(2) Impacts on the Mission of Fort Bliss. The Forest Service land presently falls within the area required by Army Regulation 385-62 which calls for an area of safety defined as the "maximum secondary danger zone." The necessity for such secondary safety zones is evidenced in debris and drones (radio controlled unmanned aerial targets) that have impacted onto the Forest Service land, and by a missile that overshot the primary safety zone in February 1976. Removal of the Forest Service portion of the secondary safety zone would necessitate major realignment and shortening of the entire safety zone, thus dictating a corresponding shortening of the firing range. The consequent shortening of the firing range would severely limit the capability of Fort Bliss to accomplish its assigned air defense training mission. For example, flight paths of target drones traverse the secondary safety zone to provide realism in tactical missile firing. Shortening the range by eliminating the Forest Service lands would degrade flight path characteristics of the drones and would require tactically unrealistic missile firing response times. Further, the firing of air defense weapon systems is presently limited to particular azimuths and to short interception ranges. Since these systems have the capability to engage targets at distances

far greater than the length of McGregor Range, the tactical realism of training exercises is already somewhat degraded. The future longer range missile systems will make the length of the range even more critical. Thus, loss of the Forest Service land on the north end of McGregor Range would set in motion a sequence of actions which would result in the inability of Fort Bliss to effectively accomplish its assigned air defense training mission.

e. Air Defense and Other Missions Not Including Maneuvering. This alternative would include renewing the withdrawal without surface maneuver use by the military.

(1) Impacts on the Human and Natural Environment. Most of the recognized impacts on soils, vegetation, wildlife, and cultural resources on the range are a result of military surface uses with heavy vehicles. The tracks of past maneuvers are readily evident on the terrain of the range. Soil erosion is increased by the disturbance of the surface and the destruction of vegetation. Wildlife habitat is also disturbed in the process as are the archeological and historical artifacts which exist at or near the surface. This alternative would remove these impacts from the range, and the remaining use for missile firing would have few effects. The major remaining impacts from the Army use of the range would concern fires from hot missile debris and the other minor impacts from missile firings. The impacts of this alternative on cultural resources are the same as that of the proposed action except that those impacts which result from maneuvering would not occur. Appropriate mitigating measures would be similar to those of the proposed action except for the major impacts due to maneuvering. The unavoidable impacts due to this alternative would be fewer than seen under the proposed action and the other alternatives since less salvage excavation would be required. To the extent salvage is necessary as the result of construction or establishing new firing fans, irreversible and irretrievable commitments of cultural resources would occur as discussed under the proposed action.

(2) Impacts on the Mission of Fort Bliss. The variety of terrain which is available on the range and more importantly at the present time, the desert terrain, is very desirable for training exercises. McGregor Range in combination with the Dona Ana Range complex provides a large area for surface training which is one of the few areas of this nature available in the United States. The fact that the military has agreed to limit such maneuvers to the basin lowlands of the range reduces the impact of these actions considerably. If the maneuvers took place on the slopes, mesa, and mountainous portions of the range, the impacts would be much more severe.



f. Renew the Withdrawal with Army Surface Uses Restricted from all Sloping Areas of the Range. This alternative would include renewing the Land Withdrawal with certain restrictions. The missile mission of the military on McGregor Range would not be affected. However, they would utilize only lands in the Hueco and Tularosa Basin which do not include hills and slopes for surface maneuvers (plate IV-1). Military surface uses would occur on a strip of land along Highway 54 about 5 to 8 miles wide. Otero Mesa, the Hueco Mountains, the Sacramento Mountains, and foothills below Otero Mesa would be off-limits for surface uses.

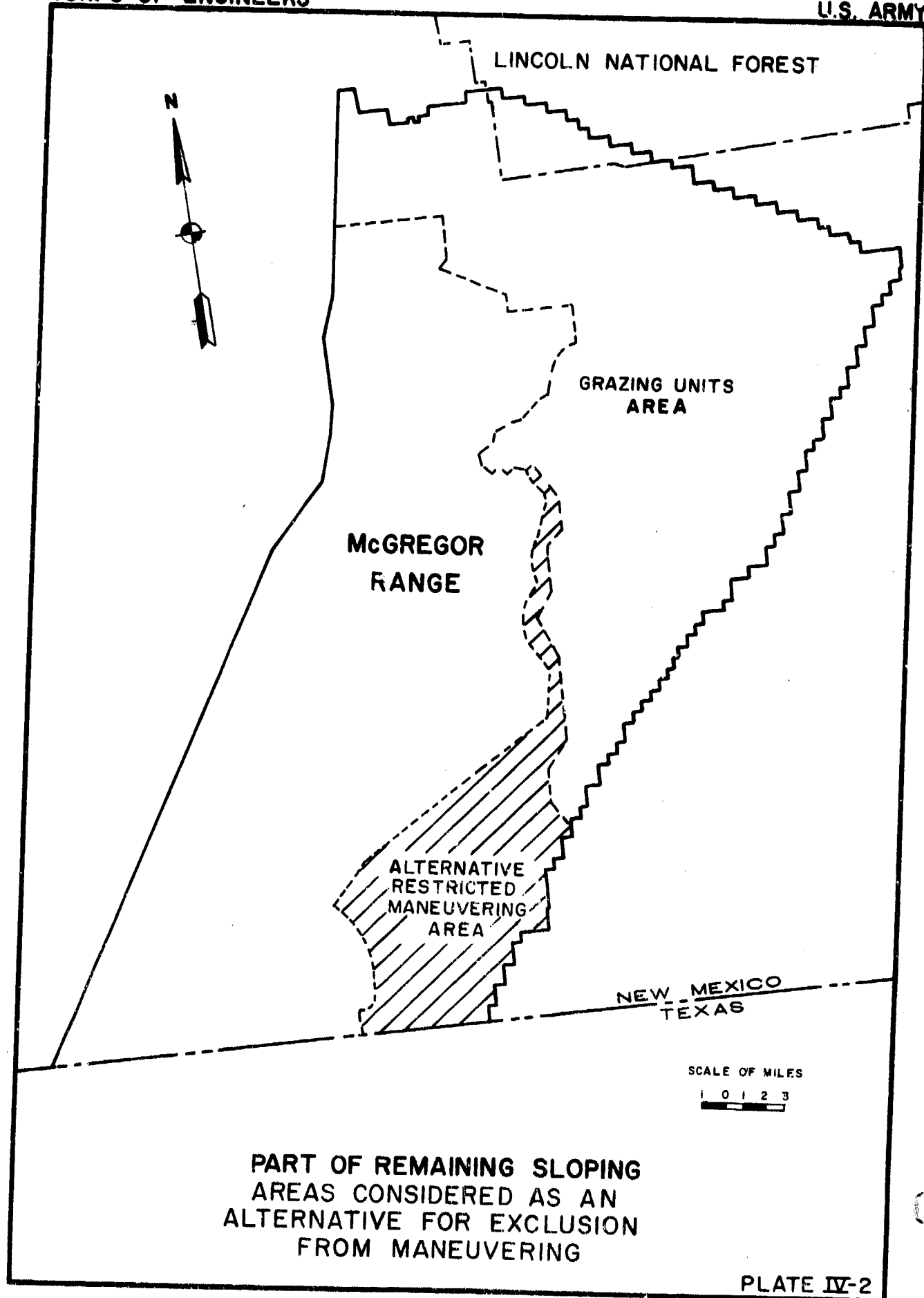
(1) Impacts on the Human and Natural Environment. By keeping the tracked and wheeled off-road military vehicles from sloping areas where soils are thin and habitat and vegetation are fragile, most of the impacts of military uses of the range would be avoided. Heavy vehicle tracks disturb the highly erodible soils which have limited stabilizing vegetation. Once tracks are made, they serve as gullies for wind and occasional downpours to carry surface soils downhill. Slopes are diverse in vegetation, terrain, and climatic changes, but when soils are eroded, there is no remaining basis for wildlife habitat which may have existed there. The erosion of soils on sloping areas would only serve to increase the instability of soils on McGregor Range. The impacts of this alternative on cultural resources are the same as that of the proposed action except that impacts from maneuvering would not occur in the Hueco Mountains and the foothills region. The discussion under the proposed action with respect to mitigating measures and unavoidable impacts are the same for this alternative.

(2) Impacts on the Mission of Fort Bliss. This alternative would reduce the area of McGregor Range which can be used for surface maneuvers by the military to about 25 percent of the range. It would also decrease the variety of terrain types which would be available for training to only the duned flatter portions of the range. This would effectively reduce the desirability of the range for surface maneuvers but would not surpass the fact that this is the only large area of desert conditions where the Army can presently train. Allowing only a narrow corridor for large units to spread out would limit the effectiveness of training because the modern mobile Army can cover large areas in minimum time. Variability in terrain which provides natural obstacles and diverse positions for defensive areas is highly desirable for such training, and to remove all sloped areas from maneuvers on McGregor Range would reduce the capability of Fort Bliss to support large scale unit training such as the joint training exercises which involve units from other installations in a multi-unit exercise.

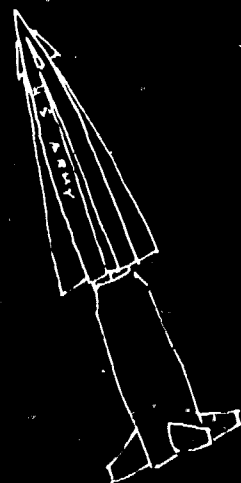
g. Renew the Withdrawal with Army Surface Uses Restricted from Portions of Sloping Areas of the Range. This alternative is like paragraph f above, but not all sloping areas of the range would be off-limits to Army surface uses (plate IV-2). The Hueco Mountains and part of the foothills areas would be added to Otero Mesa and the Sacramento Mountains as off-limits area.

(1) Impacts on the Human and Natural Environment. This alternative would incur the same impacts as the one above because of the use of sloped areas of the range. The extent of area covered would be smaller and therefore the magnitude would be reduced, but the impacts of military surface uses on soils, vegetation, and wildlife would be parallel. Many of the "edge" areas would still be involved with surface maneuvers with this alternative, especially in the low hills which are separated from Otero Mesa. These areas would be subject to erosion from military maneuvers with heavy vehicles and the resulting impacts in these locations on soils, vegetation, and wildlife would be pronounced. The impacts of this alternative on cultural resources are the same as that of the proposed action except that impacts from maneuvering would not occur in the Hueco Mountains and the foothills region. The discussion under the proposed action with respect to mitigating measures and unavoidable impacts are the same for this alternative.

(2) Impacts on the Mission of Fort Bliss. The loss of maneuver rights in either of the areas covered by alternatives f or g would not affect the air defense training mission or the maneuver training of both onpost and offpost active and reserve component units, but the alternatives would constrain the large joint training exercises which occur periodically on the range.



**PROBABLE ADVERSE ENVIRONMENTAL EFFECTS
WHICH CANNOT BE AVOIDED**



SECTION V - PROBABLE ADVERSE ENVIRONMENTAL
EFFECTS WHICH CANNOT BE AVOIDED

5.01 Adverse and Unavoidable Impacts.

a. Impacts on Geological Resources. No adverse environmental effects which cannot be avoided are expected with the land use withdrawal renewal for McGregor Range on geological resources. The commercially usable gypsum, dolomite, sands and gravel, as well as possible petroleum and base and precious metals deposits are only placed in reserve by military withdrawal of the land. A possible exception would be the natural loss of heat from a geothermal reservoir should the available energy being given off not be used. (It is not known at this time if a geothermal reservoir exists below the range.) This action by no means excludes future use of the resources if an extreme need arises. Military impacts on soils are somewhat more significant with soil erosion hazard being very real on McGregor Range.

b. Impacts on Hydrological Resources and Water Quality. As a result of military activities on McGregor Range, there are no known significant adverse impacts, which cannot be avoided, on the hydrological resources of the range. There may be occasional but minor, adverse impacts resulting from the treatment of wastewaters in the oxidation ponds at the range camps, but most of the treated water evaporates. The oxidation pond effluent does not reach surface waters or ground waters on or under the range. Ground water is over 200 feet deep in this area and is protected from surface effluents by a thick layer of impermeable caliche lying just under the surface. Additionally, much of the ground water in this area is highly mineralized, hot, and of generally poor quality in its natural state.

c. Impacts on Biological Resources. There will be adverse impacts to the vegetation on McGregor Range resulting from fires originating from hot missile debris, and training exercises, and (or) troop movements engaging heavy off-road vehicles. Wildlife, including big game species as well as nongame animals, would also be disturbed by fires and low flying aircraft.

d. Impacts on Archeological and Historical Resources. Implementation of the proposed action will result in the salvage of considerable scientific information. Enforced salvage studies, however, are low in information yield when compared with independently generated, problem related investigations which articulate more closely with contemporary scientific interests. The retention, if possible, of the resources until such time as they can most profitably be exploited would be the preferred use. Given the dynamic nature

of the basin landscape, it is unlikely that even further intensive inventories will discover all the significant archeological sites located in the basin lowlands. Thus, the potential for destruction of buried, undetected sites by large scale surface maneuvers is probable. Finally, the results of the reconnaissance survey indicate that the areas now designated as off-limits to maneuvers are in fact, not fully representative of the range of archeological resources found on McGregor. The survey results indicate that the greatest concentration of known archeological sites is located precisely in the area of most fragile soils and greatest potential for adverse military impact, the desert lowlands of the central range.

In the short term, impacts on archeological and historical resources on McGregor Range could be mitigated by restricting large scale field exercises and maneuvers to the areas where the least environmental damage will result; distributing information concerning Federal antiquities policy; and limiting entry to the range by unauthorized personnel through improved fencing, lockable gates, and warning signs. Military use of the range for purposes of missile firing then would be basically compatible with sound, long term cultural resource management.

e. Impacts on Social, Cultural, and Economic Resources. An accidental missile firing at McGregor Range could have adverse impact on public health and safety. The US Army plans and provides security measures, but there remains the possibility of an uncontrolled or mis-guided firing and (or) mishap that could result in a hazard to the public health and safety of the area residents. The US Army at Fort Bliss would be responsible for all damages or losses that might occur from missile firing. If the withdrawal is renewed, the potential income from an expanded grazing program on the range by Bureau of Land Management (BLM) would be lost. However, the lowlands part of the range that is used by the military has limited value for grazing in comparison to the mesa area that is used for the BLM program.

f. Impacts on Utilities. The military population at McGregor Range places a relatively small demand on utilities systems, and there are no adverse environmental impacts on the utilities.

g. Impacts on Land Use Resources. Land use at Fort Bliss is expected to remain the same and will not be affected by the proposed action. The renewal of the withdrawal will affect BLM land uses to the extent that an expansion of their grazing program to the basin part of the range will be prevented. However, this area is of low value for grazing use. The renewal will also exclude public uses of public domain land for recreational purposes, but should not affect Forest Service lands.

h. Impacts on Air Quality. The quality of the air over the range is good; the activities of the US Army have no significant adverse impact upon its quality. In those cases where the standards were exceeded, the concentration of the pollutants are believed to be natural background levels for this area or from unknown sources off the range beyond the control of the US Army.

i. Impacts on Energy Resources. The range camps are currently supplied with the most efficient and inexpensive forms of energy available to McGregor Range, and the usage of these energy sources does not place a significant demand or adverse impact on the resources of the region. Evidence indicates there may be geothermal energy associated with the hot ground water which underlies the range. If this energy exists, then it is likely losing energy as time passes through natural processes. As long as the source is not exploited it will be reduced in value naturally.

j. Impacts on Environmental Noise. The noise levels from aircraft, vehicles, missiles and other weapons will not adversely affect any residential areas off the range. The only potential problem might be aircraft flying directly over communities along US Highway 54, and this can be eliminated by having the aircraft maintain 2,000 feet minimum slant distance from the highway. The firing and detonation of the missiles cannot be heard off the range. There is no direct evidence that noise from military operations has any significant adverse impact upon the wildlife of the range.

k. Adverse Impacts Resulting from the Use of Toxic Materials. Toxic materials, used in very small quantities, which are in use on McGregor Range include insecticides, rodenticides, petroleum products, and other chemicals. Any time these materials are used in the environment adverse impacts will attend that usage. However, the question is one of significance of adverse impact and of controls placed on the use of toxic materials. Since very small quantities of the materials are in use, relative to the vastness of the range, adverse impacts resulting from the use of the above materials will probably be insignificant. Pesticide application is limited to the McGregor Range Camp and should have little effect on wildlife.

l. Adverse Impacts Resulting from the Use of Explosive Ordnance. In the course of conducting military training that employs the use of explosive ordnance, an unquantifiable amount of unexploded ordnance will result. Such action ultimately results in "seeding" affected areas to the extent that any land use of these areas other than current military uses must be contingent upon clearance or dedudiving operations. Within the framework of current technology clearance and dedudiving operations may be prohibitively costly. A large portion of affected areas has been impacted in this manner. This action will impact also on the soil, vegetative, and wildlife resources because of the destructive nature of exploding ordnance.

m. Adverse Impacts Resulting from Fires. Fires originating from hot missile debris may result in an unavoidable loss of vegetation, livestock, range improvements, and wildlife.

**RELATIONSHIP BETWEEN LOCAL SHORT TERM USES
OF MAN'S ENVIRONMENT
AND THE MAINTENANCE OF LONG TERM PRODUCTIVITY**



SECTION VI - RELATIONSHIP BETWEEN LOCAL SHORT TERM USES
OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND
ENHANCEMENT OF LONG TERM PRODUCTIVITY

6.01 Trade Off Between Short Term Environmental Gains at the Expense of Long Term Losses. The lands which comprise McGregor Range that were withdrawn from public domain for artillery and missile firing and tactical air defense training are necessary to meet the continuing needs of the US Army. The net effects involve short term localized environmental losses that are traded off for more long term national defense benefits to be gained. Short term positive gains in resource conservation and preservation with the land withdrawal renewal would also represent long term gains. Such long and short term environmental gains as retaining and preserving the vestiges of the once prevalent grassland ecosystem in the area, and maintaining a multiple agency program in wildlife management and cultural resource management would result. These beneficial aspects would be involved at the expense of such long term losses as the proliferation of projectiles (duds) over the range, the destruction of some vegetation resulting in soil erosion, and the loss of wildlife habitat and some cultural resource artifacts. Because of past and present uses of McGregor Range, there are duds scattered over the range which constitute a long term loss for some future land uses, such as public recreation. Dedudiving the area would be hazardous and very expensive since no record exists of the location of many of the duds. Long term losses which would be related to the military surface uses on the range such as soil erosion and habitat destruction would be limited to small areas of the lowlands portion of the range and the frequency of such use would be low. Long term impacts would be related to the slow recovery of desert ecosystems in areas where repeated surface use will occur. Because of the intra-agency program in management of the cultural artifacts which remain on the range, the long term impacts will be minimized, but minor long term destruction of artifacts still could inadvertently occur. The following display reflects the impact trade offs discussed in this paragraph.

DISPLAY OF SHORT TERM GAINS VS LONG TERM LOSSES

Short Term Gains

National defense
Retaining and preserving vestiges
of grassland ecosystem
Multiple agency program in
wildlife management and
cultural resource management

Long Term Losses

Dudiving in lowland portion of range
Soil erosion and loss of wildlife
habitat in lowlands where
surface use occurs
Cultural resource artifact losses

6.02 Trade Off Between Long Term Environmental Gains at Expense of Short Term Losses. The McGregor Range land withdrawal will result in the following short term actions: (a) temporary noise impacts resulting from missile and gunnery firings; (b) road maintenance and construction; (c) some loss and disturbance of vegetation; (d) associated losses of wildlife habitat; (e) fires resulting from hot missile debris or natural causes may result in the short term loss of vegetation, wildlife habitat, livestock grazing, and range improvements. Long term environmental gains to be realized by the land withdrawal renewal would include a possible slow reversal of the trend away from a grassland ecosystem retaining the lands in reserve for possible future use without exploitation, and maintaining a multiple agency interest in the wildlife resource. This includes the permit system of hunting rather than open public hunting which reduces the impact on wildlife and habitat. Dispersion of units and impacts in the vast area of McGregor Range helps to minimize the Army's destruction of land resources. If the land withdrawal were not renewed, the land would revert to administration by the BLM and the Forest Service, and would be managed for maximum efficient utilization of the resources. However, the Army use of the land does not presently cause any great hardship to management programs of the other agencies. The inventory surveys resulting from the proposed action provide information to cultural resource disciplines sooner than would occur without the action. If mitigation excavations occur for cultural resources, then additional information would be gained as a result of the action. Mitigation excavation, however, results in a loss of cultural resources that otherwise might be preserved for archeological research of the distant future. The display below reflects the impact trade offs discussed in this paragraph.

DISPLAY OF LONG TERM GAINS VS SHORT TERM LOSSES

Long Term Gains

National defense
Retaining grassland ecosystem
Multiple agency program in
wildlife management
Survey and scientific study of
cultural resources

Short Term Losses

Soil erosion with surface uses
Vegetation destruction
Loss of wildlife habitat
Noise
Road maintenance and construction
Fires causing vegetation
destruction, habitat losses,
and possibly range improvement
losses

6.03 Extent to Which Proposed Action Forecloses Future Options. The land withdrawal renewal forecloses only short term utilization by BLM and the Forest Service for multiple resource use by their definition, but no resources are actually being depleted. They are placed in reserve for future use by the land withdrawal.

**IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS
OF RESOURCES**



SECTION VII - IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

7.01 Unavoidable Impacts Irreversibly Curtailing the Potential Uses of the Environment. To carry out the mission of Fort Bliss will require the expenditure of manpower, funds, resources, and energy which are not recoverable. The main impacts on the McGregor Range environment resulting from military activities include the following:

(a) Soils. Activities associated with military training operations will result in soil erosion which aided by natural forces may in some cases result in complete loss of the topsoil for the affected area.

(b) Ecosystem. Losses to wildlife and their associated habitats resulting from military training activities on the McGregor Range environment are considered irreversible commitments of natural resources.

(c) Cultural Resources. The modification of a cultural resource through excavation, vandalism, or destruction due to land use constitutes an irreversible and irretrievable commitment. This situation results from the fact that the individual resources are not amenable to replacement as is possible with some biological resources. Further, even with scientific recovery methods, not all data can be recovered; and once disturbed, a cultural site cannot be reexamined using different research orientations.

Portions of McGregor Range have historically been used for artillery firing, and the projectiles which remain are a potential hazard for an unknown period. Records do not indicate the number or location of these projectiles which may represent unexploded ordnance. However, it is safe to assume that future land uses, such as recreation, will be restricted due to the presence of unexploded ordnance.

**NATIONAL DEFENSE CONSIDERATIONS THAT MUST BE BALANCED
AGAINST THE ADVERSE ENVIRONMENTAL EFFECTS
OF THE PROPOSED ACTION**



SECTION VIII - NATIONAL DEFENSE CONSIDERATIONS THAT MUST BE
BALANCED AGAINST THE ADVERSE ENVIRONMENTAL EFFECTS
OF THE PROPOSED ACTION

8.01 General. To insure the stability of our socio-political and economic systems that are prevalent in this nation, it is paramount that a strong National Defense policy be maintained. This policy of keeping a ready deterrent military force discourages other nations from attempting to undermine or overthrow our system. To maintain a strong force, it is necessary to continually train and develop capable units which can be deployed and effective anywhere in the world. Part of the effectiveness of a unit in the field is the ability to protect its members against enemy aircraft. It is also of prime importance to be able to defend positions, storage areas, or facilities against aircraft or missiles. These requirements are reasons for air defense artillery and the necessity of facilities for this training.

8.02 Benefits of the Proposed Action. The benefits of renewing the land withdrawal for military use of McGregor Range include both its value for missile testing and training and its land area for surface use. The present trend of the United States and other free world nations is toward an increase in types of air defense systems. This trend is expected to continue and likely accelerate. All of the initial and most of the recurring training of American Army air defense forces are conducted at Fort Bliss and at McGregor Range. Many free world countries, including Spain, Japan, Germany, and Israel also conduct some or all of their training at Fort Bliss and McGregor. In addition to air defense training, McGregor Range facilities are used by active Army, Reserve, and National Guard units. Current development and deployment trends for air defense missile systems are toward increased tactical mobility to support the field army. Training and fire exercises for units equipped with these types of systems includes maneuver, as well as firing, as part of their readiness training. McGregor Range provides the terrain and expanse for such exercises

McGregor Range joins the White Sands Missile Range. This is significant because of increasing range and destructive power of future systems which may create requirements that exceed the present land masses for the two ranges. The continued availability of McGregor Range will allow for the future training and testing of such systems with the combined use of the two ranges. This is presently accomplished for the surface-to-surface firing of Pershing missiles, and such a land mass situation would be hard to duplicate anywhere in the free world. Also adjoining McGregor Range is Dona Ana Range Complex. The facilities

at Dona Ana in combination with McGregor Range create the most extensive single training and maneuver area in the United States. Within this area of more than 1.2 million acres are desert, plains, and mountains. The combination is ideal for large scale exercises.

8.03 Costs (Money, Resources). Renewing the withdrawal for McGregor Range could involve some costs in money and resources lost to the use of the public. McGregor Range is public domain that is withdrawn for military use. This permit removes the value of the land to the public for outdoor recreation use, mining, and exploitation of mineral resources, income from and availability of grazing on the total land area, hunting on the entire range, and open access. Without military use, McGregor Range could support some expanded grazing which would bring more funds into the US Treasury. These funds could be used for further improvements on the range. Were the range open for public access, it would likely be a very popular facility for off-road vehicle use, but users could have as much or more effect on vegetation as does the military use. Permits for hunting would not need to be issued for the range if it were public domain. It would be open for public hunting as well as other recreational uses, such as camping, hiking, and picnicking. The extraction of minerals by mining would be available if the land were public domain; however, their retention on the range represents a reserve for future use.

APPENDIX X

COORDINATION, COMMENT AND RESPONSE

LAND USE WITHDRAWAL
McGREGOR RANGE
FORT BLISS, TEXAS

APPENDIX X
COORDINATION, COMMENT AND RESPONSE

X-1. General. The National Environmental Policy Act of 1969 requires that the expertise and views of a broad range of knowledgeable people be used in preparing environmental statements. This appendix contains a history of the coordination effort and the written correspondence of those who have provided input to the draft environmental statement. Table X-1 is provided to facilitate finding the correspondence of particular agencies, organizations, or individuals and responses of Fort Bliss to those comments.

TABLE X-1
COORDINATION WITH OTHERS

AGENCY	FULL TEXT
State of New Mexico, Planning Office	X-8
" " " Health and Social Services	X-9
Southeastern New Mexico Economic Development District	X-10
US Department of Agriculture, Soil Conservation Service	X-11
US Environmental Protection Agency	X-12
US Department of Transportation, Federal Highway Administration	X-15
New Mexico Wildlife Federation	X-16
Mayor of El Paso	X-19
Governor of Texas, Budget and Planning Office	X-20
Texas State Department of Highways and Public Transportation	X-21
Texas Air Control Board	X-22
Texas Parks and Wildlife Department	X-23
Texas Historical Commission	X-24
State Historic Preservation Office, New Mexico	X-26
State of New Mexico Department of Game and Fish	X-29
Advisory Council on Historic Preservation	X-32
US Department of Agriculture, Forest Service	X-35
US Department of Commerce	X-39
US Department of the Interior	X-43
El Paso Centennial Museum	X-52
Arizona State University	X-54
James B. Rodgers	X-56
COAS Publishing and Research	X-57
Stanley E. Green	X-59
Society for Range Management	X-60
Prairie Dawgs M/C	X-62
The Wilderness Society	X-63
Responses to Comments, Numbered	X-67

X-2. Summary of Coordination.

a. Pre-Statement Agency Meetings. The study was initiated in July 1974. At least six conferences and reviews were held during various stages in the development of the EIS with representatives of the Departments of the Army, Interior, and Agriculture to insure that input was received from all elements concerned. A mid-study review in July 1976 with Federal and State agencies representatives finalized agreements on the withdrawal.

b. August 1976 Draft Statement. The draft statement was transmitted to the Council on Environmental Quality on 27 January 1977 and circulated to Federal, State, and local agencies, conservation associations, and individuals. Notice of availability of the statement was published in the Federal Register 1 February 1977.

c. Public Meeting. An informal public meeting on the McGregor Range draft environmental impact statement sponsored by Fort Bliss, Texas, was held 14 April 1977 in the Hinman Hall auditorium and was moderated by Colonel Bernard B. Sapp, deputy commander. The primary purpose of the meeting was to obtain the views and concerns of the attendees on the environmental impacts resulting from the proposed action as depicted in the draft statement. Following presentations by the director of plans and training and the commander of the range camp on the use and need of McGregor Range, the facilities engineer presented the environmental impacts and mitigative measures. A written comment and proposal by 11 scientists at New Mexico State University was received (complete text is published in the following pages). A statement and question from the Rio Grande Chapter of the Sierra Club concerned wilderness areas and the status of the Army fee-owned lands. A question concerning initiation of remote sensing and other ecological studies was received from a biologist with the Texas A&M University Agricultural Research Center at El Paso. After presentation of the statements, the floor was opened to questions. Subjects of the questions posed included Army firing schedules, recreation and control of access to New Mexico State Highway 506, excluding Forest Service lands from the withdrawal legislation, and wilderness preservation.

Comments extracted from statements and questions presented at the public meeting follow.

Rio Grande Chapter of the Sierra Club

Comment: "The Rio Grande Chapter of the Sierra Club does not object to the renewal of the withdrawal with the following reservations: (1) Limiting Army use on some of the slope areas of Otero Mesa and in the mountain areas."

Response: Concur. We will limit our activities on some sloping areas and monitor the environmental effects.

Comment: "(2) Wilderness values in the Sacramento Escarpment Roadless Area of the Lincoln National Forest must not be damaged."

Response: Concur. Our mission in this area will be conducted in conformance with required wilderness value.

Comment: "(3) BLM lands must be studied for possible inclusion in the wilderness preservation as prescribed by the BLM Organic Act of 1976, and no activities that might damage potential wilderness areas should be permitted."

Response: Concur.

Comment: "If the Sacramento Escarpment Roadless Area is designated as wilderness, what would the status of the Army fee-owned lands be? Does the Army object to such wilderness designation?"

Response: Army fee-owned lands would be included in the roadless area. The Army does not object, but it may be in the best national interest to explore the possibility of exchanging these lands for other Forest Service lands outside the wilderness area.

Jerold M. Carter, Research Technician

Comment: "Will Fort Bliss commit itself to begin remote sensing and other ecological studies immediately?"

Response: Plans are now underway to schedule a comprehensive study. Implementation of the study will be dependent upon Congressional appropriations.

d. Comment and Response. Copies of the draft environmental statement were sent to Federal, State, local agencies, and individuals for review and comment on the accuracy and adequacy of the information contained in the statement. The comments received have been reviewed and evaluated, and where applicable, revisions were incorporated in the final statement. Copies of their letters with numbered responses are presented on the following pages.

**Comments and a Proposal Concerning the Land Use Withdrawal Statement
for McGregor Range, Fort Bliss, Texas**

Portions of the McGregor Range include what may be the finest examples of black grama grassland in the United States. The nature of the Army's mission and the careful management under the Bureau of Land Management on this withdrawal have apparently been responsible for this condition. The black grama grass which at one time dominated much of the mesa land in southern New Mexico has virtually disappeared during the past one-hundred years and most of the sites which supported this grass have deteriorated to a degree that make re-establishment unlikely. Consequently, the black grama grassland remnants which remain on McGregor Range have great historical, scientific, and aesthetic value.

We propose that a few small, currently unutilized, portions of this grassland on McGregor Range be collectively designated as a "Research Natural Area". The establishment of such an area would not entail additional expense or modification of the current operations on the range for either the Army or BLM. Such a designation has intra agency control and, therefore, does not curtail the authority of the agency or agencies proposing such a designation.

The potential value of such an area to the agencies involved and to the public in general are considerable. For example:

1. The establishment of a research natural area will provide a unique natural laboratory for the study of ecosystem processes responsible for maintaining productivity in black grama grasslands. To our knowledge no other areas exist where ecosystem processes can

be monitored in black grama grassland in its pristine condition. Historical accounts make it obvious that such grasslands in the southwestern United States are much less productive now than prior to the introduction of domestic livestock. The causes of this decline in productivity are controversial largely because of our lack of knowledge concerning the ecosystem processes responsible for its maintenance. Even a casual reconnaissance reveals many ecosystem features in the proposed natural area which are not found in other black grama communities. One of the most obvious of these is the variety and density of algal crust organisms on the soil surface. The nitrogen fixing capacities of these organisms leads to the hypothesis that their role in nutrient cycling may be essential to maintaining productivity of the ecosystem and that their absence in other, more disturbed, black grama ecosystems may be a contributing factor to their lowered productivity. Experiments designed to test this hypothesis and obtain information which may lead to enhanced productivity in other black grama ecosystems can only be conducted in an area which can be maintained for research for extended periods of time.

2. The area can also serve as a "bench mark" area. Long term quantitative and qualitative measurements of the biotic populations, soils, and weather can be used to assess community dynamics such as stability, diversity, and productivity. These data will not only provide valuable ecological information about a relatively pristine (natural) black grama grassland but they can also serve as "control" data for comparisons with data obtained from the BLM's nearby managed rangelands. The selection of sites makes

it possible for the establishment of paired plots (grazed and ungrazed) at every site.

3. The area will serve as a refuge for the natural diversity of a black grama grassland. Some plant and animal species which are largely limited to this vegetation type are likely to be at least regionally threatened or endangered because there is so little of this type left. For example: Mulenbergia villosa, a species listed as endangered in Texas, was discovered for the first time in New Mexico on the McGregor Range within one of the sites suggested here.

The sites proposed for inclusion in the Research Natural Area are all located outside current grazing units. The proposed sites are as follows:


Site "A" is a narrow strip paralleling State Road 506 in portions of sections 10, 11, 12, and 13 in T21S, R11# and sections 17 and 18 in T21S, R12E.

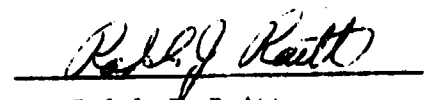
Site "B" includes portions of sections 7, 17, 18, and 20 of T22S, R11E.


Site "C" includes portions of sections 6 and 7 in T23S, R11E.

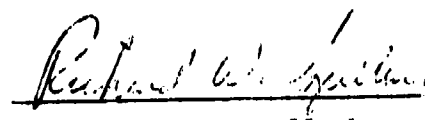
Site "D" includes portions of section 31 in T23S, R11# and sections 6, 7, and 18 in T24S, R11E.

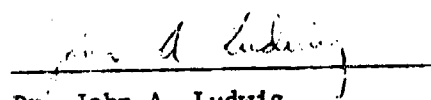
The total land involved in all of these sites is a little over 6 sections.

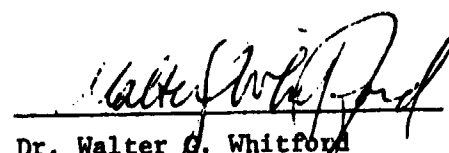

Dr. Gary L. Cunningham
Plant Ecologist
New Mexico State University
Las Cruces, New Mexico

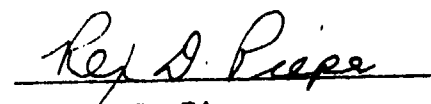

Dr. Ralph J. Raitt
Avian Ecologist
New Mexico State University
Las Cruces, New Mexico

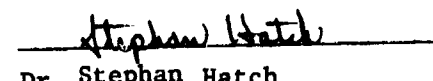

Dr. William A. Dick-Peddie
Plant Ecologist
New Mexico State University
Las Cruces, New Mexico

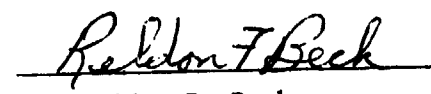

Dr. Richard W. Spellenberg
Plant Taxonomist
New Mexico State University
Las Cruces, New Mexico

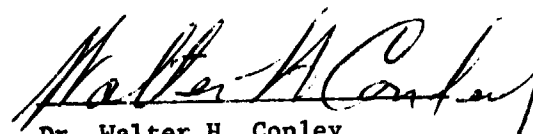

Dr. John A. Ludwig
Plant Ecologist
New Mexico State University
Las Cruces, New Mexico

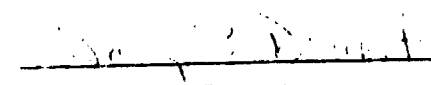

Dr. Walter G. Whitford
Animal Ecologist
New Mexico State University
Las Cruces, New Mexico


Dr. Rex D. Pieper
Range Ecologist
New Mexico State University
Las Cruces, New Mexico


Dr. Stephan Hatch
Grass Taxonomist
New Mexico State University
Las Cruces, New Mexico


Dr. Reldon R. Beck
Range Biologist
New Mexico State University
Las Cruces, New Mexico


Dr. Walter H. Conley
Population Ecologist
New Mexico State University
Las Cruces, New Mexico


Dr. Gary B. Donart
Range Plant Physiologist
New Mexico State University
Las Cruces, New Mexico

STATE OF NEW MEXICO



STATE PLANNING OFFICE

GREER BUILDING
505 DON GASPAR
SANTA FE, 87503
(505) 827-2073

GRACIELA (GRACE) OLIVAREZ
STATE PLANNING OFFICER

JERRY APODACA
GOVERNOR

March 9, 1977

Headquarters
Department of the Army
ATTENTION: DAPE-MPT
Washington, D.C. 20310

RE: Draft Environmental Impact Statement on Land Use Withdrawal,
McGregor Range, Fort Bliss, Texas

Dear Sirs:

We have reviewed the subject Draft Environmental Impact Statement.
We fully support the adoption of the Proposed Changes to the Cooperative
Agreements as Mitigating Measures found on pages III-12 thru 15.

Thank you for the opportunity to review this document.

Sincerely,

A handwritten signature in cursive script, appearing to read "Jack M. Mobley".

Jack M. Mobley, Planner II
Division of Natural Resources

JMM:anne



STATE OF NEW MEXICO

February 11, 1977

■ ENVIRONMENTAL IMPROVEMENT AGENCY
PO Box 2348 - Planning & Regulations
Santa Fe, New Mexico

HEALTH
SOCIAL
SERVICES
department

Grace Olivarez, Director
State Planning Office
505 Don Gaspar
Santa Fe, New Mexico 87503

Attention: Kate Wicks

Dear Ms. Olivarez:

We have reviewed the Draft Environmental Impact Statement on the extension of land withdrawal to allow Fort Bliss Military Reservation to continue to utilize the lands comprising McGregor Range.

It is our view that this document fairly and adequately addresses impacts upon the environment and therefore fulfills the spirit and intent of the National Environmental Policy Act of 1969.

Yours sincerely,

Thomas E. Baca
Director

TEB:DB:cma

cc: Robert J. Lunn
Major General, USA
Commanding USAADCEN &
Fort Bliss
Fort Bliss, Texas

William A. Anderson, Colonel
Corps of Engineers
Director, Facilities Engineering
USAADCEN and Fort Bliss
Fort Bliss, Texas



SOUTHEASTERN NEW MEXICO ECONOMIC DEVELOPMENT DISTRICT

P. O. BOX 6639 R. I. A. C. ROSWELL, NEW MEXICO 88201

505- 347-5425

NICK J. PAPPAS Executive Director

February 28, 1977

Mr. Charles R. Ford
Deputy Asst. Secretary of the Army
Headquarters
Dept. of the Army
ATTN: DAPE-MPT
Washington, D.C. 20310

RE: Review and Comment - "Land Use Withdrawal, McGregor Range, Fort Bliss, Texas"
Environmental Impact Statement

Dear Mr. Ford:

This office has reviewed the Draft Environmental Impact Statement (DEIS) on the extension of a land withdrawal which allows the Fort Bliss, Texas, military reservation to continue to utilize the lands comprising McGregor Range, part of which is in Otero County, New Mexico. This review has been in consort with opinions of local governments that could be affected by continuation of this withdrawal. Information gathered in our review indicates that:

1. The action proposed in this withdrawal is basically an extension of a present withdrawal. No added negative or positive impacts are identified due to the action.
2. Continuation of this agreement is considered satisfactory by local government officials.
3. The continued operation of McGregor Range is essential to the general economic well-being of many of the District's residents. Continued withdrawal of these lands seem the preferred method of accomplishment.

The S.N.M.E.D.D. feels that extension of the land withdrawal for McGregor Range is a positive action with continual Department of Army monitoring. If we can be of further assistance, please do not hesitate to contact us.

Sincerely,


Nick J. Pappas
Executive Director

NJP:BLB:dm
cc: Otero County
State Clearinghouse

UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

Box 2007, Albuquerque, NM 87103

March 14, 1977

Headquarters, Department of Army
ATTENTION: DAPE-MPT
Washington, DC 20310

Gentlemen:

The draft Environmental Impact Statement entitled "Land Use Withdrawal, McGregor Range, Fort Bliss, Texas," dated August 1976, which was sent to the U. S. Department of Agriculture on January 26, 1977, has been referred to this office for review and comment.

We find that the proposed actions would have no deleterious impact on resources or projects in which the Soil Conservation Service has responsibility.

Yours very truly,


A. W. Hamelstrom
State Conservationist

cc:

Council on Environmental Quality, 722 Jackson Pl. NW, Washington, DC,
20006 (5)

Director of Environmental Services Division, SCS, Washington, DC





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

FIRST INTERNATIONAL BUILDING

1201 ELM STREET

DALLAS, TEXAS 75270

February 22, 1977

**Mr. Charles R. Ford
Deputy Assistant Secretary of the Army
(Civil Works)
Headquarters, Department of the Army
Washington, D. C. 20310**

Attention: DAPE-MPT

Dear Mr. Ford:

We have reviewed the Draft Environmental Impact Statement for the extension of a land withdrawal which allows the Fort Bliss, Texas, Military Reservation to continue to utilize the lands comprising the McGregor Range.


The United States Army desires to extend the withdrawal for an initial 15-year period, followed by two 10-year periods, subject to periodic review by the Department of the Army, the Department of the Interior, and the Department of Agriculture.

We classify your Draft Environmental Impact Statement as LO-1. Specifically, we have no objections to the project as it relates to Environmental Protection Agency's (EPA's) legislative mandates. The statement contained sufficient information to evaluate adequately the possible environmental impacts which could result from project implementation. The classification and the date of our comments will be published in the Federal Register in accordance with our responsibility to inform the public of our views on proposed Federal actions, under Section 309 of the Clean Air Act.

Definitions of the categories are provided on the attachment. Our procedure is to categorize our comments on both the environmental consequences of the proposed action and on the adequacy of the impact statement at the draft stage, whenever possible.

We appreciate the opportunity to review the Draft Environmental Impact Statement. Please send us two copies of the Final Environmental Impact Statement at the same time it is sent to the Council on Environmental Quality.

Sincerely yours,


John C. White
Regional Administrator

Enclosure

ENVIRONMENTAL IMPACT OF THE ACTION

LO - Lack of Objections

EPA has no objections to the proposed action as described in the draft impact statement; or suggests only minor changes in the proposed action.

ER - Environmental Reservations

EPA has reservations concerning the environmental effects of certain aspects of the proposed action. EPA believes that further study of suggested alternatives or modifications is required and has asked the originating Federal agency to re-assess these aspects.

EU - Environmentally Unsatisfactory

EPA believes that the proposed action is unsatisfactory because of its potentially harmful effect on the environment. Furthermore, the Agency believes that the potential safeguards which might be utilized may not adequately protect the environment from hazards arising from this action. The Agency recommends that alternatives to the action be analyzed further (including the possibility of no action at all).

ADEQUACY OF THE IMPACT STATEMENT

Category 1 - Adequate

The draft impact statement adequately sets forth the environmental impact of the proposed project or action as well as alternatives reasonably available to the project or action.

Category 2 - Insufficient Information

EPA believes the draft impact statement does not contain sufficient information to assess fully the environmental impact of the proposed project or action. However, from the information submitted, the Agency is able to make a preliminary determination of the impact on the environment. EPA has requested that the originator provide the information that was not included in the draft statement.

Category 3 - Inadequate

EPA believes that the draft impact statement does not adequately assess the environmental impact of the proposed project or action, or that the statement inadequately analyzes reasonably available alternatives. The Agency has requested more information and analysis concerning the potential environmental hazards and has asked that substantial revision be made to the impact statement. If a draft statement is assigned a Category 3, no rating will be made of the project or action, since a basis does not generally exist on which to make such a determination.



U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
REGION SIX

117 U. S. Court House
Santa Fe, New Mexico 87501

March 21, 1977

IN REPLY REFER TO HA-NM

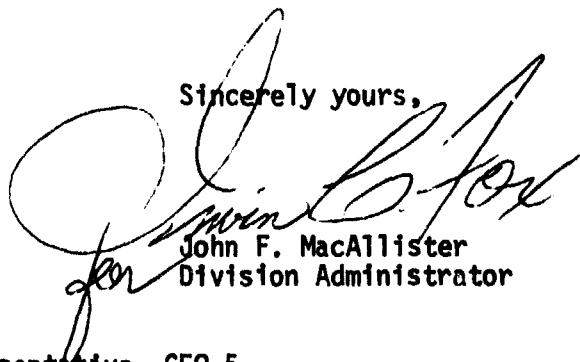
Headquarters
U. S. Department of the Army
Washington, D. C. 20310

Attention: DAPE-MPT

Gentlemen:

We have reviewed your Draft Environmental Impact Statement for
Land Use Withdrawal, McGregor Range, Fort Bliss, Texas. We have
no comments to offer.

Sincerely yours,



John F. MacAllister
Division Administrator

cc: TES-70, Secretarial Representative, CEQ-5,
R.O. (Heel)

Affiliated with National Wildlife Federation

NEW MEXICO WILDLIFE FEDERATION

300 VAL VERDE, S.E.
ALBUQUERQUE, NEW MEXICO 87108
TELEPHONE: (505) 265-7372

JIM STEPHENSON
President

March 17, 1977

U.S. Department of the Army
Public Affairs Office
Office of the Chief of Engineers
Washington, D.C. 20314

Dear Sir:

We have reviewed the Draft Environmental Impact Statement on the extension of a federal land withdrawal for McGregor Missile Range. New Mexico Wildlife Federation Board of Directors voted unanimously in favor of the exclusion of Forest Service and Bureau of Land Management lands north of Highway #506 from the withdrawal.

Please notify us when public hearings will be held, so that we may provide a more detailed statement.

Sincerely,

Jim Stephenson
Jim Stephenson
President

JS:mk



*Dedicated to the Wise Use and Management of Our Wildlife Resources
and the Natural Environment Upon Which All Life Depends*

NEW MEXICO WILDLIFE FEDERATION

*Dedicated to the Conservation of Soil, Forests, Waters, Wildlife, and all
Natural Resources*

Affiliated with National Wildlife Federation

~~XX~~

Telephone (505) 265-7372

300 Val Verde, S.E. Albuquerque, N.M. 87108

Headquarters, Department of the Army

Attn: DAPE-MPT

Washington, D.C. 20310

Dear Sir:

We appreciate the opportunity to present our views and give our comments on the proposed withdrawal of public land on McGregor Range. We recognize the need for McGregor Range as an important location for air defense training and for desert warfare maneuvers. We also are aware that the federal lands encompassed in McGregor Range serve a vital function for our national defense.

However, after reviewing the Draft Environmental Impact Statement on the extension of a federal land withdrawal for McGregor Missile Range, the Board of directors of the New Mexico Wildlife Federation voted unanimously in favor of the exclusion of Forest Service and Bureau of Land Management lands north of New Mexico State Highway 506.

Furthermore, we favor alternate "D", as discussed in the Corp of Engineer Impact Statement, which provides for exclusion of all involved Forest Land from any formal land withdrawal.

It is our firm conviction that Forest Service Lands should be left under Forest Service supervision and that public domain lands are best managed by the Bureau of Land Management.

During the past some 20 years of military use of this land, many complaints have been voiced about the military overstepping their bounds regarding hunting and recreational uses.

Therefore we ask that control and management of wildlife resources be left under the supervision of the New Mexico Game Commission.

Sincerely;

Jim Stephenson
(By *Stan Allen*, Board Member)

Jim Stephenson, President
New Mexico Wildlife Federation



DON HENDERSON
MAYOR

OFFICE OF THE
MAYOR
EL PASO, TEXAS 79901

February 8, 1977

Mr. Charles R. Ford
Deputy Assistant Secretary of
the Army (Public Works)
Department of the Army
Washington, D.C. 20310

Dear Mr. Ford:

I received two copies of the Draft Environmental Impact Statement on the extension of a land withdrawal which allows Fort Bliss to continue utilizing McGregor Range.

I have forwarded them to our Director of Planning and Research, Mr. Jonathan R. Cunningham, for his review and comments.

Sincerely,

Don Henderson
Mayor

/gv



OFFICE OF THE GOVERNOR

DOLPH BRISCOE
GOVERNOR

March 31, 1977

Mr. Charles R. Ford
Deputy Assistant Secretary of the Army
Department of the Army
Attention: DAPE-MPT
Washington, D.C. 20310

Dear Mr. Ford:

The Draft Environmental Impact Statement, "Land Use Withdrawal McGregor Range, Fort Bliss, Texas," has been reviewed by the Budget and Planning Office and interested State agencies.

The comments of the reviewing agencies are enclosed to assist you in your planning effort. If this Office can be of further assistance, please contact us.

Sincerely,

A handwritten signature in dark ink, appearing to read "Charles D. Travis".

Charles D. Travis, Director
Budget and Planning Office

Enclosures

X-20



RECEIVED

FEB 7 1977

Budget/Planning

COMMISSION

REAGAN HOUSTON, CHAIRMAN
DEWITT C. GREER
CHARLES E. SIMONS

STATE DEPARTMENT OF HIGHWAYS
AND PUBLIC TRANSPORTATION

P.O. Box 10278
El Paso, Texas 79994
February 4, 1977

DEPUTY DIRECTOR
B. L. DEBERRY

Subject: Draft Environmental Impact Statement
Land Use Withdrawal, McGregor Range
Fort Bliss, Texas

IN REPLY REFER TO
FILE NO.

Division of Planning Coordination
Office of the Governor
P.O. Box 12428
Austin, Texas 78711

Gentlemen:

Our planning staff has reviewed the subject Environmental Impact Statement with special regard to any effects on U.S. Highway 54. District 24 has no objections to renewal of the land use withdrawal of McGregor Range as proposed.

Very truly yours

Joe M. Battle
District Engineer

AC:ej



TEXAS AIR CONTROL BOARD

PHONE 512/451-5711
8520 SHOAL CREEK BOULEVARD

CHARLES R. BARDEN, P. E.
EXECUTIVE DIRECTOR

AUSTIN, TEXAS - 78790

JOHN L. BLAIR, Chairman
WILLIE L. ULICH, Ph.D., P.E., Vice Chairman
WILLIAM N. ALLAN
JOE C. BRIDGEFARMER, P.E.
FRED HARTMAN

CHARLES R. JAYNES
D. JACK KILIAN, M.D.
WILLIAM D. PARISH
E. W. ROBINSON, P.E.

RECEIVED

FEB 7 1977

Budget/Planning

February 4, 1977

Mr. H. Anthony Breard, Coordinator
Natural Resources Section
Budget and Planning Office
Office of the Governor
411 West 13th Street
Austin, Texas 78701

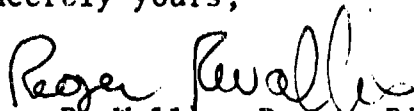
Subject: Draft Environmental Impact Statement: Land Use
Withdrawal, McGregor Range, Fort Bliss, Texas

Dear Mr. Breard:

We have reviewed the above cited document, and the portion dealing with the existing ambient air quality is very good. Due to the facility's location outside Texas and the relatively low emissions from its activities, we feel that there will be no significant impact on the air quality of Texas. Therefore, we feel that the project is consistent with the Texas Air Pollution Control Implementation Plan.

Thank you for the review opportunity. If we can assist further, please contact me.

Sincerely yours,


Roger R. Wallis, Deputy Director
Standards and Regulations Program

cc: Mr. Sabino Gomez, Regional Supervisor, El Paso

**TEXAS
PARKS AND WILDLIFE DEPARTMENT**

MISSIONERS

PEARCE JOHNSON
Chairman, Austin

JOE K. FULTON
Vice-Chairman, Lubbock

JACK R. STONE
Wells



CLAYTON T. GARRISON
EXECUTIVE DIRECTOR

4200 Smith School Road
Austin, Texas 78744

COMMISSIONERS

BOS BURLISON
Temple

JOHN M. GREEN
Beaumont

LOUIS H. STUMBERG
San Antonio

February 17, 1977

Mr. Charles R. Ford
Deputy Assistant Secretary
of the Army
Department of the Army
Washington, D. C. 20310

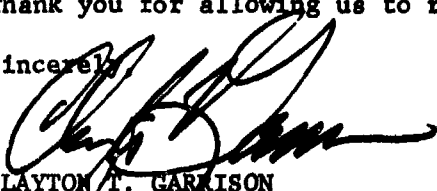
Re: Draft Environmental Impact Statement: Land Use
Withdrawal, McGregor Range, Fort Bliss, Texas

Dear Mr. Ford:

The Texas Parks and Wildlife Department has reviewed the document cited above. Since the McGregor Range is located in the State of New Mexico and the proposed activities are not expected to affect the fish, wildlife and recreational resources of Texas, we have no comments on the land withdrawal proposal.

Thank you for allowing us to review this document.

Sincerely,


CLAYTON T. GARRISON
Executive Director

CTG:MW:lmw

cc: Governor's Budget and Planning Office
Executive Office Building
411 West 13th Street
Austin, Texas 78701



Texas Historical Commission.
Box 12276, Capitol Station
Austin, Texas 78711
Truett Latimer
Executive Director

March 23, 1977

Mr. Ward C. Goessling, Jr., Coordinator
Natural Resources Section
Budget and Planning Office
Office of the Governor
Executive Office Building
411 West 13th Street
Austin, Texas 78701

RECEIVED

MAR 25 1977

Budget/Planning

Re: Draft Environmental Impact Statement
Land Use Withdrawal
McGregor Range, Fort Bliss, Texas

Dear Mr. Goessling:

In response to your request concerning the above-referenced proposal, we have examined the draft statement and find that several sites potentially eligible for inclusion within the National Register of Historic Places may be affected by the proposed withdrawal. Sites such as these are afforded protection under Section 106 of the National Historic Preservation Act of 1966.

The State Historic Preservation Officer recognizes that he has no jurisdiction in this matter and recommends contact with the State Historic Preservation Officer of New Mexico, Mr. Tom Merlin. However, as similar actions are anticipated for other areas of the Fort Bliss Military Reservation which are within the state of Texas, we find the referenced interim archeological report to be of importance in assessing the significance of resources in areas such as the Eastern Hueco Bolson. For this reason, we request a copy of the final report on the Archeological Reconnaissance Survey, McGregor Range, Fort Bliss, Texas as prepared by Texas Archeological Survey for agency use.

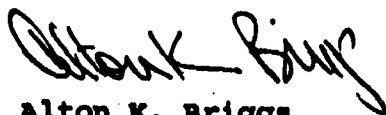
Your attention to this matter is appreciated. If we may be of further assistance, please advise.

Sincerely,

Truett Latimer
State Historic Preservation Officer

March 23, 1977
Mr. Ward C. Goessling, Jr.
Page 2

By



Alton K. Briggs
Archeologist
Cultural Resource Management

AKB:lap

cc: Tom Merlin
Mike Bureman

STATE OF NEW MEXICO



STATE PLANNING OFFICE

GREER BUILDING
505 DON GASPAR
SANTA FE, 87503
(505) 827-2073

GRACIELA (GRACE) OLIVAREZ
STATE PLANNING OFFICER

JERRY APUDACA
GOVERNOR

March 10, 1977

Headquarters
Department of the Army
Washington, D.C. 20310

ATTN: DAPE-MPT

Gentlemen:

Thank you for the copies of the draft environmental impact statement on land withdrawal on McGregor Range, Fort Bliss. I have the following comments to offer:

On page I-41 "four sites of late historic age" are referred to as being eligible to the National Register of Historic Places. One of them has been inadvertently omitted. I believe it must be the Ellis Wright Cabin. 3

The statement singles out those properties which, in the opinion of the contract archeologist and the command, are eligible to the National Register of Historic Places. I refer you to TM-5-801-1, page A-3: "to identify properties eligible for inclusion in the National Register, the Agency Official shall, in consultation with the appropriate State Historic Preservation Officer, apply the National Register criteria, set forth in 36 CFR 800.10, to all properties possessing historical, architectural, archeological or cultural value located within the area of the undertaking's potential environmental impact." In other words, the choice of National Register-eligible properties from among those properties inventoried is a matter of mutual agreement. I want to arrange a meeting with the contract archeologist and the command in which we can discuss all the sites and their eligibility to the Register. I don't, however, feel that they should all be nominated. Inclusion in the National Register is much less important, in my opinion, than good management. 4

I have received a copy of a letter from Colonel P.R. Kinney, Chief of the Training Division at Fort Bliss, responding to a letter from Louis S. Wall of the Advisory Council on Historic Preservation to Charles R. Ford, Deputy Assistant Secretary

Department of the Army
March 10, 1977
Page 2

of the Army. Mr. Wall had requested that the Secretary of the Interior be asked by the Army to determine the eligibility to the National Register of Historic Places of all sites inventoried by the archeological survey. Colonel Kinney spoke to me about this, and then replied to Mr. Wall's letter that the eligibility of all sites would be the subject of a discussion between the authorities at Fort Bliss and my office. The military command will inform me of the date of the meeting. Once we have gone over the forms, I will be in a better position to provide any necessary comments to the Secretary.

It is essential to my review that all site forms be supplied to the Laboratory of Anthropology of the Museum of New Mexico, where I can have access to them for the time required to analyze them. The survey contract states, on page 2 of Appendix A, that sites will be numbered under the Museum system. As the contract archeologist is aware, these numbers are not issued until the site forms are received.

I am inclined to believe that one or several archeological district nominations may be appropriate. I intend to take this up at our meeting on the DES.

The archeological mitigating measures as set forth on p. III-14 and 15 seem to me to be in essential agreement with A.R. 200-1. The basic point is that archeological survey, assessment and protection and management are a continuing effort. The hiring of a range archeologist is of the highest importance. I respectfully suggest that this archeologist be at least G-11. A lesser degree of training and background may make it difficult for this employee to carry out the necessary job of identification and interpretation of sites.

A continuing effort is of special importance if, as I believe, the predictive archeological statements in the DES (V. I-35, V-2) are of very limited value. You might refer to Memoir No. 18 of the New Mexico Bureau of Mines and Mineral Resources (R.V. Ruhe, 1967) for an article which indicates that deposition in a geologically similar area to the west of the survey area is of such a nature (Organ and Fillmore deposits accumulate at a rate of as much as one foot per 440 years) that the large majority of Archaic and Paleoindian sites will be buried. They will only be identified if disturbed. An archaeologist engaged in continuing survey and analysis is therefore essential.

Mitigating measure (d) (p.III-15) suggests that sites in areas to be affected by surface maneuvers should be salvaged.

Department of the Army
March 10, 1977
Page 3

Whether such salvage is to be carried out, however, depends first on the application of National Register criteria as set forth above, and secondly on the provisions of A.R. 200-1. This Army Regulation makes it clear that salvage is to be undertaken only with the written concurrence of the Secretary of the Interior and the Smithsonian Institution (Section 8-6(c) 8). In general, conservation, not salvage, is called for by the A.R. and TM-5-801-1. 4

On V-2, restriction of large-scale field operations is mentioned as a mitigating measure, but those terms do not appear on III-11,12 where they would be most appropriate. The idea of management of cultural resources belongs here too. It is glanced at on V-1 (retention...of the resources until such time as they can most profitably be exploited would be the preferred use.")

In the meantime, archeological resources are being depleted by range operations to a certain extent. The Post Engineer, the contract archeologist and I recently observed a target in the middle of a large brownware site (EPAS-86) which had been staked to prevent just such things from happening. The statement on VI-2 that resources are not being depleted is a little less than accurate. 5

I will be bringing up these various points at the informal public meeting on the DES scheduled for late this month or early next month at Fort Bliss. Please let me know if you need further information.

Sincerely,



Thomas W. Merlan
State Historic Preservation
Officer

TWM:jf

State of New Mexico



GOVERNOR
JERRY APODACA
DIRECTOR AND SECRETARY
TO THE COMMISSION
WILLIAM S. HUEY

DEPARTMENT OF GAME AND FISH

STATE CAPITOL
SANTA FE
87503

STATE GAME COMMISSION
F. URREA, JR., CHAIRMAN
ALBUQUERQUE
ROBERT H. FORREST
CARLSBAD
J. W. JONES
ALBUQUERQUE
ROBERT P. GRIFFIN
SILVER CITY
DR. FRANKLIN B. ZECCA
GALLUP

February 18, 1977

DAEH-P-E-MPT
Headquarters, Department of the Army
Washington, D. C. 20310

Gentlemen:

We have reviewed the Draft Environmental Impact Statement, Land Use Withdrawal, McGregor Range, Fort Bliss, Texas, and wish to make the following comments.

On page 1-18 under (3), New Mexico Department of Game and Fish, the following information should be included. In New Mexico Statutes Annotated, 1953 compilation, Fish and Game, Article 7, State Game Commission Section 53-1-1 Declaration of Policy, it states, "It is the purpose of this act and the policy of the State of New Mexico to provide an adequate and flexible system for the protection of the game and fish of New Mexico and for their use and development for public recreation and food supply, and to provide for their propagation, planting, protection, regulation and conservation to the extent necessary to provide and maintain an adequate supply of game and fish within the State of New Mexico."

Although the Department of Game and Fish works closely with various land use agencies in the preparation of management plans and hunting regulations, the authority of the State Game Commission to regulate is not shared.

On page 11-1, item (2), State Programs; the State of New Mexico has statutory responsibility for the administration of wildlife as stated in Section 53-1-1 presented in the preceding paragraphs. This program will be affected by restricting access to the lands and by the necessity of coordinating wildlife uses with military uses.

On page 11-2, item b. Reasons for Proceeding with Action. We are in accord with this paragraph and particularly encourage the philosophy of the last sentence which reads, "As an important occupant of Federal lands, the U. S. Army has an obligation to the American people to act responsibly and effectively in natural resources management and environmental protection."

On page 111-4, paragraph 4, we are pleased to note that the Army's Environmental Office, which includes a biologist, will continue to give assistance to this Department. Coordination between our two agencies can provide for the enhancement and protection of wildlife on McGregor Range.

February 18, 1977

On page 111-12, item (1), we suggest adding the following words to the last sentence, "and all hunting of protected species is prohibited except as provided by New Mexico Game Commission regulations," along with any appropriate language to identify further restriction by military regulations.

Of the proposed Alternates, we recommend Alternate d, Renew the Withdrawal Without Forest Service Lands. The advantages of returning these public lands to public uses is of more importance than retaining them in an area of "maximum secondary danger zone." On page 1-19, Plate 1-5, illustrates that the launch area could be relocated to the south to compensate for the maximum secondary danger zone that would be lost by not retaining the Forest Service Lands. The discussion in paragraph (2) under this alternate states that the missiles have the capability to engage targets at distances for greater than the length of McGregor Range and future longer range missile systems will make the length of the range even more critical. This recognizes the necessity of limiting the performance of the missiles even if the range was much greater in length. We would further recommend that all of the area north of State Road 506 be excluded from the withdrawal.

With respect to the wildlife surveys and inventories, there are some areas that we consider questionable or inaccurate, and would suggest their review.

On page A-8-15 and 16, the rare and endangered bird list includes the mountain chickadee, harlequin quail, golden eagle and prairie falcon. None of these species are rare or endangered. To the best of our knowledge, black hawks do not occur on McGregor Range, nor are broad-billed and blue-throated hummingbirds at all likely.

On page A-12, paragraph 1, we wonder if the reported "commonness" of rufous-crowned and Cassin's sparrows might be due to misidentification of chipping and Brewer's sparrows.

On page A-13, paragraph (b), failure to find "big weasel tracks, droppings, or other sign," during a limited survey is not enough reason to conclude that the black-footed ferret (Mustela nigripes) is absent from the range.

On page A-23, paragraph d., A ferruginous owl is reported as being found in the creosote bush area of the foothills. This owl is associated with tropical habitats and we assume that a misidentification was made. The species has not been confirmed to occur in New Mexico.

On page A-25, paragraph c., the reported sighting of two grey wolves is questionable. Identification on the basis of size, breadth at the shoulder, and habit of carrying the tail high while running does not inspire confidence. Grey wolves have not been verified as being in any section of New Mexico except the Sonora border area for many years, and the summation that the wolves were an accidental intrusion from the Sacramento Mountains or other remote sanctuary is unlikely.

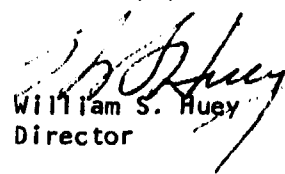
On page A-32, Appendix D, Table 4, the sightings of red-shouldered hawk, common crow, rufous-crowned sparrow, and Cassin sparrow are doubtful.

February 18, 1977

On page A-33, Table 5, the following additional species are also doubtful: ferruginous owl, eastern kingbird, Wied's crested flycatcher, olivaceous flycatcher, gray flycatcher, Mexican jay, pinyon jay, catbird, Bendire's thrasher, gray vireo, and double-crested cormorant. / 16

Because of our interest in wildlife of the State, our Department could probably have contributed significantly to the preparation and compilation of wildlife data that went into the preparation of the draft statement, had we been called upon to do so. However, we do thank you for the opportunity to review and comment upon the completed draft statement.

Sincerely yours,


William S. Huey
Director

cc: State Planning Office

Advisory Council on
Historic Preservation
1522 K Street N.W.
Washington, D.C. 20005

February 9, 1977

Mr. Charles R. Ford
Deputy Assistant Secretary of the Army
(Civil Works)
Office of the Assistant Secretary
Department of the Army
Washington, D. C. 20310

Dear Mr. Ford:

This is in response to your request of January 26, 1977 for comments on the draft environmental statement (DES) for the extension of a land withdrawal for McGregor Range, Fort Bliss, Texas. The Advisory Council on Historic Preservation has reviewed the DES and notes that the proposed withdrawal may affect the "Fleck's Dugout"; "Old Ditch Camp"; "Foster Ranch" and portions of "Oliver Lee's Pipeline", as well as numerous archeological sites, all of which may be eligible for inclusion in the National Register of Historic Places.

Therefore, pursuant to Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. 470f, as amended, 90 Stat. 1320) and Section 2(b) of Executive Order 11593, "Protection and Enhancement of the Cultural Environment" issued May 13, 1971, and Section 800.4(a)(2) of the "Procedures for the Protection of Historic and Cultural Properties" (36 C.F.R. Part 800), the Council requests the Department of the Army to request in writing an opinion from the Secretary of the Interior respecting these properties' eligibility for inclusion in the National Register and inform us of the findings. The Army is reminded that should the Secretary of the Interior determine these properties are eligible for inclusion in the National Register, it is required to afford the Council an opportunity to comment pursuant to Section 106, as amended, and Section 2(b) of Executive Order 11593, prior to taking any action with respect to the undertaking that will affect the sites.

Until the requirements of Section 106, the Executive Order 11593 and the "Procedures" are met, the Council considers the DES to be incomplete in its treatment of the cultural resources. To remedy this deficiency, the Council will provide substantive comments on the undertaking's effect

Page 2
February 9, 1977
Mr. Charles R. Ford
McGregor Range

on the above referenced cultural resources through the process set forth in the "Procedures". Please contact Michael H. Bureman of the Council staff at P. O. Box 25085, Denver, Colorado 80225, telephone number (303) 234-4946, to assist you in completing this process as expeditiously as possible to avoid any unnecessary delays in the implementation of the proposal.

Sincerely yours,

Michael H. Bureman

Louis E. Wall

for Assistant Director, Office
of Review and Compliance



DEPARTMENT OF THE ARMY
OFFICE OF THE DEPUTY CHIEF OF STAFF FOR PERSONNEL
WASHINGTON, D.C. 20310

DAPE-MPT

10 FEB 1977

Mr. Michael H. Bureman
Advisory Council on Historic Preservation
P.O. Box 25085
Denver, Colorado 80225

Dear Mr. Bureman:

This is in regard to your letter of 9 February 1977 (copy enclosed), concerning the Army's Draft Environmental Impact Statement (DEIS) for the McGregor Range land withdrawal extension.

As part of the DEIS review, the New Mexico State Historical Preservation Officer is examining the Archaeological Reconnaissance Survey. During his review, he will consult with Fort Bliss and Army Engineer officials to reach agreement on the final list of those properties to be considered as potential candidates for inclusion in the National Register of Historical Places.

Upon receipt of the final list, Department of the Army will solicit an opinion on the eligibility of the properties from the Department of the Interior. You will be informed of the findings and offered an opportunity to comment should any of them be determined as eligible for listing in the register.

Sincerely,

P. R. Kinney
P. R. KINNEY

Colonel, GS
Chief, Training
Division

Incl
as



CF: DAEN-ZCE
Dept of Interior
(National Park Service)
Dept of Interior
(Code 321)
TRADOC
Fort Bliss, SHPO, NM X-34

JIMMIE E. BARNES
LTC, GS
Chief, Training
Branch



UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
P.O. Box 2417
Washington, D. C. 20013

2760 (8400)



Headquarters, Department of the Army
Attn: DAPE - MPT
Washington, D. C. 20310

Dear Sir:

Thank you for the opportunity to comment on your Environmental Impact Statement concerning withdrawal of public lands for defense purposes on McGregor Range. The proposed withdrawal includes 18,004 acres of the Lincoln National Forest, and comments will be limited to that area.

We feel that several significant points are not adequately discussed in your draft statement. Most of these issues were raised in Supervisor Hafterson's letter of March 1, 1976; but subsequent drafts of the EIS were not corrected to reflect those comments. We also note that the land description in the environmental statement conflicts with that listed in the Federal Register of January 11, 1977.

18

Although the Forest Service urged you to involve the New Mexico Department of Game and Fish in the evaluation of the wildlife resource, the Army did not appear to have taken advantage of this valuable source of information. As a result, there are several inadequacies in the discussion of wildlife values. However, this is not discussed in detail here because it is fully covered in the Game Department's letter of February 18, 1977.

19

Your discussion does not fully consider impacts of the proposal on the recreation resource. You state that impacts on recreation are not significant because adequate recreational facilities are available at Fort Bliss and opportunities for outdoor recreation are found elsewhere in the area. The statement does not address the fact that the proposal would eliminate or severely limit recreational use of a large acreage of public land. It does not adequately consider the recreation opportunities that are foregone

20

by the continued inclusion of the area in the McGregor Range. There is no justification for the total exclusion of recreational use from this National Forest area, as proposed. On days when missiles are not actually being fired, there is no reason to deny access to users of the National Forest.

20

The statement fails to make note of the fact that a portion of the inventoried Sacramento Roadless Area lies within the proposed withdrawal. This was pointed out to Colonel Anderson in Supervisor Hafterson's letter of August 10, 1976. As a part of the settlement of a lawsuit in Sierra Club vs. Butz in 1972 (Civil No. 72-1455 SC, U.S.D.C. ND Calif.), the Forest Service agreed that no actions affecting the potential wilderness values of these inventoried areas would be taken without first filing an environmental statement. The Army proposal may affect the use of this inventoried roadless area. This issue should be addressed. It is possible that the Forest Service cannot concur in the withdrawal without violating the court order issued in settlement of the lawsuit.

21

The Bureau of Land Management has received numerous applications for oil and gas exploration in the foothills of the Sacramento Mountains and the nearby Guadalupe Mountains. There is no reason that this activity should be excluded from a secondary danger zone. Drilling could be permitted with the same special requirements as applied to grazing permits in the area. This use of National Forest land has the potential to contribute to solution of the Nation's energy crisis and benefits to the economy of Southern New Mexico are obvious.

22

Although a great deal of effort and expense went into the archeological evaluation of the range, the sampling design did not generate data of sufficient reliability to support any selection of alternatives. The fact that data was gathered by a "grab sample" technique results in information on site density and characteristics which lacks statistical validity. One reason given for the inadequate sample was the danger to field crews from unexploded ordnance in the area. This certainly does not hold true on the National Forest portion, which is a secondary impact zone. Data generated from this survey was apparently not used in the selection of alternatives. Nowhere is there any indication that the relative impacts of the various alternatives on the cultural resource was considered in the final alternative proposed.

23

24

The statement dismisses Alternative b - using White Sands Missile Range rather summarily. It is hard to accept the proposition that the entire 1,855,996 acres at White Sands, an area $2\frac{1}{2}$ times larger than the McGregor Range, are so fully occupied that 500 tactical firings a year could not be accommodated.

25

Discussions of Alternative d - exclusion of the National Forest from the range are quite brief. The Forest Supervisor requested that you include this alternative, because he was not convinced of the need for a formal withdrawal of this portion of the range. The two paragraph dismissal of this alternative does nothing to change this belief. One important issue not discussed is the number of missiles impacting on the Forest portion in the past. Forest Service personnel can find no evidence that any missile has ever impacted on the National Forest during 20 years of firing.

26

You also state that use of the range for missile firing would not be possible without withdrawal of the involved National Forest lands. This is simply not true. The Forest Service, and other public land agencies, have numerous other military uses authorized by memorandums of understanding and special use permits. We can easily agree to excluding the public from this area on firing days through an Inter-Agency Agreement.

27

The Forest Service cannot support the proposed legislation as presented for the following reasons:

1. I-6(f) indicates that Forest Officers would need permission from the Army to travel to the National Forest for management activities.

2. I-b(1) says that the Army will regulate off-road vehicle travel in the area. Except for Army traffic, this is clearly a land management responsibility of the Forest Service.

3. The proposal states that the general public shall enjoy the same rights to hunt, fish, or trap as Army personnel (I-2(b)). This is public land and all hunting, fishing, and trapping is regulated by the New Mexico Game Commission. The thrust of this statement should be reversed to indicate that Army personnel are subject to the regulations of the Commission, and will not be afforded special privileges.

28

4. The proposal states that the Department of the Army will control access as determined by the Commander (I-2(c)). It should state that the public can be denied access only for public safety reasons and only on firing days.

5. The legislation permits surface uses by the Army (I-2, 1) and does not exclude such surface uses from the Sacramento Roadless Area.

2760 (9400)-Department of the Army-

6. The proposal would effectively tie up this land for 35 years. This is too long to properly assess land use needs. We propose that such an agreement should not exceed 10 years.

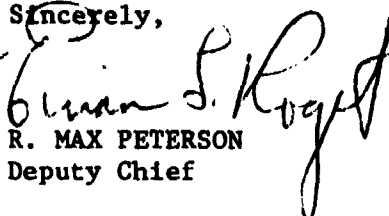
28

The Forest Service recognizes the importance of the McGregor Range to the defense of the free world, and we intend to continue to cooperate with the Army in the use of this land for missile training and testing. However, we feel that there are several serious deficiencies in the proposal that is presented in the draft environmental statement.

We request that you reconsider the selection of Alternative "a" and exclude the Lincoln National Forest from any proposed legislative withdrawal. The only legitimate military need for this land that has been identified through your environmental statement is that of excluding the public during firing. The Forest Service can continue to support the military mission of McGregor Range through an Inter-Agency Agreement.

Thank you again for this opportunity to comment on the draft environmental statement. We will have a spokesman available for any public meeting which is scheduled.

Sincerely,

for 
R. MAX PETERSON
Deputy Chief



UNITED STATES DEPARTMENT OF COMMERCE
The Assistant Secretary for Science and Technology
Washington, D.C. 20230

February 28, 1977

Mr. Charles R. Ford
Office of the Assistant Secretary
Department of the Army
Washington, D. C. 20310

Dear Mr. Ford:

The draft environmental impact statement, "Land Use Withdrawal, McGregor Range, Fort Bliss, Texas" which accompanied your letter of January 26, 1977, has been reviewed, and the following comments are offered for your consideration.

General Comments

The draft statement makes the point that the quality of the air above McGregor Range is good. However, pollution from high altitude rockets may not occur in the vicinity of the launching and impact sites where the two ground measurement stations are located, but high in the atmosphere where emitted hydrocarbons, nitrogen oxides, and other chemical species can react with each other and with atmospheric ingredients, in the presence of intense solar radiation, to form new pollutants. Moreover, particulates emitted at these high altitudes would not readily fall to earth, but could travel for considerable distances before settling. Thus, the air measurements at Stations One and Two may monitor the effects of busy military activity, but not necessarily the emissions of the Redeye, Chaparral, Hercules, and Hawk missiles. 29

The water quality discussions should address the potential impact of EPA's proposed Underground Injection Control Regulations (40 CFR 146) under the Safe Drinking Water Act (P.L. 93-523). These proposed regulations will apply to ground waters with total dissolved solids of 10,000 mg/l or less. EPA has requested an inventory of pits, ponds, and lagoons to evaluate their effect on the quality of underground sources of drinking water. 30

2.

The document has its share of typographic errors which should be corrected.

Specific Comments

II. LAND USE RELATIONSHIPS

2.01 Conformity or Conflict with Other Land Use Plans, Policies, and Controls

(a) Federal, State, and Local, Page II-1 - It can be expected that Texas and/or New Mexico will have land use plans or policies within the next 35 years. This possibility should be addressed. 31

APPENDIX A. AIR QUALITY ANALYSIS

Table 2-2, page A-2-5 - Replace (mg/M³) with (μg/M³) as units for suspended particulates. In the footnote, bottom line, change mg/M³ means milligram per cubic meter to μg/M³ means micrograms per cubic meter. The mg/M³ units are incorrect.

Table 2-3, page A-2-6 - At the top of the table add the heading, Percent Less Than to explain the Pollutant Frequency Distribution numbers 10, 30, 60, etc. The single GEOMETRIC MEAN column is confusing in light of the data of Table 2-2. The GEOMETRIC MEAN column of Table 2-3 presents 1-hour Geometric Means for all the ppm pollutants, but a 24-hour Geometric Mean for suspended particulates. This should be clarified with footnotes or, as in Table 2-2, with two columns appropriately headed 1-HOUR and 24-HOUR GEOMETRIC MEAN. The ARITHMETIC MEAN column of Table 2-3 repeats the data of the AVERAGE column of Table 2-2. The column headings should be made to agree. 32

APPENDIX A. WATER QUALITY ANALYSIS

Table 3-1, page A-3-4 - Since the dissolved water ingredients are below 10,000 mg/l, the proposed EPA regulations may apply. See General Comments.

3.

ANNEX C. ENVIRONMENTAL ASSESSMENT OF AMBIENT AIR

Table 1 and Table 2, page C-5 - The comment for Table 2-2, page A-2-5 applies.

Table 3, page C-6 - The comments relating to the Geometric Mean column for Table 2-3, page A-2-6 apply.

Table 5, page C-8 - The table is headed, "Atomic Absorption Analysis," in apparent disagreement with the statement on page C-7, paragraph c. Specialized Analyses, that Table 5 presents the results of both emission spectroscopy and atomic absorption analyses.

Table 8, page C-12 - Footnote: replace mg/M³ with µg/M³.

MISCELLANEOUS TYPOGRAPHIC ERRORS

Some of the more visible typographic errors and misspellings are listed:

Page I-1, line 5 from bottom - add of so sentence reads, "...withdrawal from defense purposes of public lands..." (underline denotes added word)

Page I-34, line 20 - Change f om to from.

Page I-34, line 27 - Change Raage to Range.

Page C-14, line 12 - Change fluxuations to fluctuations.

Page C-18, line 6 - Change dessicated to desiccated.

Page C-18, line 15 - Change reation to reaction.

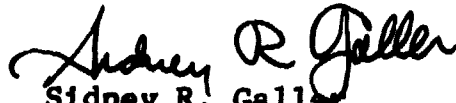
Page C-18, line 21 - Change chemiluminescent to chemiluminescence.

Page C-20, line 5 - Change quanitative to quantitative.

4.

Thank you for giving us an opportunity to provide these comments, which we hope will be of assistance to you. We would appreciate receiving eight copies of the final statement.

Sincerely,

A handwritten signature in cursive script that reads "Sidney R. Galler".

Sidney R. Galler
Deputy Assistant Secretary
for Environmental Affairs



United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

In Reply Refer to:
1792 (321)

MAR 30 1977

Honorable Charles R. Ford
Deputy Assistant Secretary
of the Army (Civil Works)
Washington, D.C. 20310

Dear Mr. Ford:

This is in response to your letter requesting the Department of the Interior's review and comments on the draft environmental statement for the proposed McGrigor Range Land Use Withdrawal. Most of our reviewers emphasized the responsiveness of the draft statement to many of the comments they made during previous reviews of the preliminary statement. Your department is to be commended for the sincere cooperative efforts of your Ft. Bliss personnel during their preparation of the statement.

The following comments are submitted for your consideration in revising the draft statement. To facilitate that revision, our remarks have been separated into general comments, which are discussed below, and specific comments, which are itemized in Enclosure 1. In addition, some of the letters we received on the withdrawal notice pertained in part to the environmental aspects of the withdrawal. Copies of these letters are being forwarded to the Director of Facilities Engineering at Fort Bliss for use during revision of the draft statement.

In general, the statement should be strengthened through better quantification, especially in Sections III and V. For example, pages III-3 through III-5 should contain information on how many acres of each ecozone have been disturbed by past off-road vehicle activity, and estimate future disturbance. Similarly how many fires, how extensive, and during what part of the year have they occurred under withdrawal versus under public land status. Such quantification will give the reader a clearer idea of the magnitude of the impacts, the effectiveness of the mitigation measures, and the resultant unavoidable impacts.

33

Endangered and threatened plant and animal species are briefly mentioned in the Environmental Setting, Section III, and Appendix A. The expected impacts on endangered and threatened species, however, should be addressed with more emphasis and detail in Section III (Impacts) and Section IV (Alternatives). For example, Page A-8-16 lists several endangered bird species that "could sometimes occur

34



X-43

Save Energy and You Serve America!

on the range," but does not assess the proposal's effects on the critical habitat or populations of these birds. In addition, Appendix A, page 10, contains a short discussion of golden eagles and peregrine falcons. This information, however, is not used to draw conclusions about the effects of the proposal or alternatives on endangered and threatened species. It is suggested that two separate lists for threatened and endangered species be prepared, one for those identified by the State of New Mexico and one for those identified by the Federal Government.

34

In response to our earlier comments, the draft statement briefly discusses an alternative which would delete national forest lands from the withdrawal. More detailed consideration should be given to this alternative in view of public and agency interest. As a result, the final statement should more thoroughly assess the impacts of this alternative on all multiple uses to enable the decisionmaker to compare it environmentally with the proposed action. In a similar manner, each alternative should be evaluated and summarized on the basis of a systematic and comparative analysis of associated impacts on significant environmental elements. The development of a chart would assist in demonstrating interacting impacts.

35

Cultural resources will be adversely affected by the proposed action; therefore, it will be necessary to develop a memorandum of agreement among the Army, the Bureau of Land Management (BLM), the State Historic Preservation Officer, and the Advisory Council for Historic Preservation. You may wish to contact the following individuals for assistance: Wayne Kuhn - New Mexico State Office, BLM, (505-988-1214); Thomas Merlon, New Mexico State Historic Preservation Officer (505-827-5191); and Michael Bureman, Advisory Council on Historic Preservation (303-234-4946).

36

The final statement should recognize that a memorandum of agreement is required by 36 CFR 800. Reference to 36 CFR 800 may also assist you during preparation of the final statement since it identifies the criteria for cultural resource effects, the procedure to follow when such effects occur, and how effects should be documented in environmental statements.

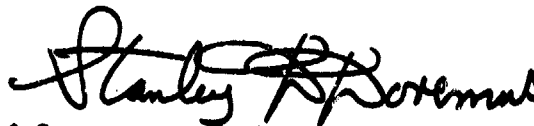
37

In connection with the Act of February 28, 1958, 43 U.S.C. 157, the draft statement adequately recognizes the necessity for a minerals survey. The Department of the Interior, through its Bureau of

Mines and Geological Survey will shortly issue identifiable parameters to determine the quality of coverage which will be required for a minerals survey in order to satisfy the requirements of the Federal Land Policy and Management Act and the National Environmental Policy Act.

We have appreciated the opportunity to review this draft statement.

Sincerely yours,



Deputy Assistant Secretary of the Interior

Enclosures:

- 1 - Specific Comments
- 2 - PLC 1547
- 3 - PLO 1470
- 4 - Engle Act
- 5 - Federal Register Notice of Land Withdrawal
- 6 - INT FES 76-10

SPECIFIC COMMENTS

Where possible the following review comments indicate the specific section, page and/or paragraph to which they refer. Many of the statements within the body of the statement were also contained in the Appendices. As a result, although each of the review comments are referenced to only one part of the document, they may pertain to several parts.

SECTION I, INTRODUCTION AND ENVIRONMENTAL SETTING:

I-1, 1.01, a: It should be noted that Public Land Order 1547, dated November 7, 1957, also withdraw public lands for the McGregor Range and corrected several errors found in Public Land Order 1470, dated August 21, 1957. A copy of Public Land Order 5147 should appear in Appendix D of the statement.

38

I-1, 1.01, b: The proposed action involves the withdrawal of 626,388.93 acres of public lands not 697,000 acres. See Table I-1.

39

I-1, 1.01, b, (1): The sentence should read as follows: "The Engle Act, Public Law 85-338, dated February 28, 1958, and the Federal Land Policy and Management Act of 1976, Public Law 94-579, dated October 21, 1976, describe the procedures which must be followed by"

40

I-1, 1.01, b, (3): The sentence should read as follows:

"Under the provisions of the Engle Act, Public Law 85-338, dated February 28, 1958, and any applicable provisions of the Federal Land Policy and Management Act of 1976, Public Law 94-579, dated October 21, 1976, legislation for this and withdrawal is as follows:"

I-1, 1.01, b, (3): Delete proposed legislation items 1 thru 7 on page I-2, I-6, and I-7. Substitute legislation prepared by the Department of the Interior.

41

I-5, Table I-1: The "Total Withdrawal" acreage must agree with that acreage identified in the withdrawal application. Suggest that this table be revised as follows:

42

<u>Land Category</u>	<u>Acreage</u>
Public Land	608,384.87 ac.
Forest Service Land	<u>18,004.06 ac.</u>
Total Withdrawal	626,388.93 acres

Encl. 1

Army Fee owned lands	
McGregor Range Area	71,083.28 ac.
Lincoln National Forest Area	<u>1,360.00 ac.</u>
Total Army Fee	72,443.28 ac.
Total Acreage	697,474.21 acres

42

I-6, (1): The proposed legislation does not recognize the same restriction on vehicular traffic as indicated in other parts of the statement (c.g. Appendix D, page 7, (10) and III-13, (f)). To avoid any confusion and to be consistent, this portion of the statement should be changed to reflect the wording in the proposed changes to the cooperative agreement (Appendix D, page 7, (10)).

43

I-25, Para. 1: This reference equates lack of interest in oil and gas exploration with lack of past success of wildcat drilling on the range. As indicated during previous reviews, this lack of interest may be more related to inaccessibility resulting from closure of the range for the past 20 years. (Note: In this regard, the New Mexico Oil and Gas Association registered a formal protest against the original land acquisition in 1955.) As a result, we suggest that the correlation between the success of wildcat drilling and interest in exploration be deleted from the statement.

44

I-28, 1.02f: The third paragraph states that 11 grazing units totaling 246,000 acres have been contracted annually. The paragraph containing the table (I-29) shows 515,000 acres provided for Co-use grazing. To avoid any confusion the later reference should indicate that only 246,000 acres of the Co-use area are presently grazed.

45

I-30, h: "It would be helpful if two listings of threaten and endangered species were prepared, e.g., one for those identified by the State of New Mexico and one for those identified in the Federal Register. We would reference, as an example, pages 3 thru 6 of the Draft Supplemental to the Final Environmental Statement: Proposed Sale of Fort Mohave Lands, Nevada, prepared by BLM, Nevada State Office, INT FES 75-10 (see enclosure).

46

Identifying the location and size of prairie dog towns (20 acres or larger) would be useful in determining the significance of that resource and the remote possibilities of black-footed ferret habitat. The discussion of endangered species should also include information relative to the plant Perityle staurophylla which was nominated for inclusion in the threatened category, Federal Register, July 1, 1975. (See Enclosure)

47

I-30: The source(s) of information leading to the conclusion that there are no endangered plant species known to occur on McGregor Range should be referenced. If there are possible habitats for these species a survey of these habitat areas should be undertaken as part of the monitoring program so that their existence or non-existence can be confirmed.

48

Section I, Ecological Profile: The graphic presentation of ecological relationships is excellent, however, it would be helpful to make reference to Figure 8-2, page A-8-3 and to superimpose the ecozones on this map. This would aid in reader orientation.

Section I, General: Section I should discuss ambient levels of noise, health, and safety if these environmental elements will be impacted by probable actions of personnel utilizing the range during their training exercises.

49

SECTION II, LAND-USE RELATIONSHIPS:

II-1, 2.01, a (1): The fourth sentence indicates that BLM is responsible for the management of wildlife on lands that it administers. The New Mexico Department of Game and Fish is actually responsible for the management of wildlife, while the BLM is responsible for management of wildlife habitat. This distinction between wildlife and wildlife habitat should be made when revising this section.

50

There are additional references in the text which refer to "BLM management of wildlife," these inaccuracies should be corrected by inserting the word "habitat" after the word "wildlife." (Page A-8-21, etc.)

II-2, 2.02, b: This portion appears to be a justification statement and is not appropriate in the environmental statement. The ideas expressed in this paragraph may be more appropriate in Section VIII.

51

SECTION III, PROBABLE IMPACT OF THE PROPOSED ACTION ON THE ENVIRONMENT:

III-2, (3)(6): As mentioned on page I-28, water for use in the El Paso area is limited in quality and quantity. Impacts on water resources should be discussed in the statement. If McGregor Range activities contribute significantly to the 50-year usability projections, this should be documented. This is of concern since development of water resources often involve significant impacts to fish and wildlife resources.

52

III-3, 3.01b(8): Paragraph 2 states that vegetative recovery from mechanical damage is slow and may not occur within 10 years. In the last paragraph of this subsection, the statement is made that in 20 years there has been a noticeable but incomplete course of physical and biological stabilization. It is further stated that there is no evidence that recovery will be complete in another 20 years. There should be a note of explanation for the two recovery time estimates.

53

III-4 (8): The statement "human intervention could result in many wildlife populations moving into overpopulated areas of less disturbance" is not in conformance with wildlife management concepts. While it is true that human interventions may result in wildlife population shifts, the wildlife resources in other areas presently exist at or near their carrying capacities with very little capacity to allow immigration and

54

permanent increases in populations. To increase population in surrounding habitat, it is necessary to utilize wildlife habitat management to first increase carrying capacities.

III-6: The reference in the first paragraph to "...no critical (mineral) shortages..." appears to contradict the subsequent reference to a "...national ...shortage of energy...." We believe that the characterization of the current energy shortage as not critical should be avoided. As a result, we suggest that the sentence should be deleted or the phrase "as well as possible petroleum reserves" be deleted from the second line of the first sentence.

55

III-13 (e): This item states "The commanding general will approve any new grazing units developed within the co-use area." Although this statement appears to give blanket approval to new grazing units, it was intended to give the commanding general review authority. We believe that the following wording would be more appropriate: "Any new grazing units developed within the co-use area will require coordination with, and approval by, the Commanding General of the Center."

56

III-13, a: This item did not cover the wildlife habitat management responsibilities of BLM. The following change would include those responsibilities and the other responsibilities that are covered in this reference.

"The Fish and Wildlife Service, Bureau of Land Management, and the New Mexico Department of Game and Fish will coordinate fish and wildlife management within the Co-use Area with the U. S. Army Air Defense Center. The New Mexico Department of Game and Fish will be responsible for wildlife management; the Bureau of Land Management will be responsible for wildlife habitat management; the Fish and Wildlife Service will have the responsibility for predator control initiated by BLM, and for advising BLM in regard to endangered species habitat management; and the U.S. Army Air Defense Center will have the responsibility of access and safety.

57

III-14, f: The reference should contain the lead statement that BLM will initiate any requests to Fish and Wildlife Service for predator control on grazing units within McGregor Range.

58

III, Mitigation Measures (General): The mitigation measures should identify which particular impacts they are mitigating. If this were done it would assist the reader in tracking the impacts through mitigation measures to unavoidable impacts.

59

Mitigation measures should be considered if there is any significant siltation of water impoundments resulting from storm water erosion of soils disturbed by movement of military vehicles.

SECTION IV, ALTERNATIVES TO THE PROPOSED ACTION:

IV-5, d: The alternative of deleting Lincoln National Forest lands from the withdrawal may have greater feasibility than is presented in this section. National Forest lands of 18,004 acres comprise less than 3% of the total McGregor Range lands. These lands occupy the "secondary danger zone". Examination of Plate I-4 reveals that with Lincoln National Forest lands deleted from the withdrawal, this zone near Orogrande and in the vicinity of the National Forest lands would appear to be approximately equal. As discussed in paragraph (2), page IV-5, long range missile systems testing is presently limited. These limitations, however, are due to the long distance capabilities of the missiles. If relative minor adjustments in firing distances could accommodate the deletion of Lincoln National Forest lands from the withdrawal, the resulting increase in public use and multiple use may be in the best interest to the public.

It is suggested that more detailed consideration be given to this alternative in view of the public and agency interest. The text should more thoroughly assess the impacts on all multiple uses to enable the decision-maker to compare it environmentally with the proposed action.

SECTION V, PROBABLE ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED:

Unavoidable impacts to endangered or threatened species should be mentioned here. For example, habitat of the black-tailed prairie dog (classified as endangered by the State of New Mexico) will probably be adversely affected. (See I-30 h above)

SECTION VI, RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY:

This section was somewhat confusing. In general, it should discuss the extent to which the proposed action involves trade-offs between short-term commitments of resources as a result of the proposal and the long-term maintenance and availability of environmental values. In the discussion of trade-offs, there must be an identification of what particular resources are to be given up, in what amount, and what, if any, cumulative long-term impacts can be anticipated. In 6.02 the trade-offs do not seem to be a correlation between the short-term actions and long-term gains. For instance, generation of noise does not result in maintenance of a grassland ecosystem.

It is also important to identify what time frames constitute short and long-term periods. Although these are not fixed time periods, short-term can generally be thought of as that time when the substantive part of the action (e.g. firing, troop exercises, etc.) takes place, and long-term as that time in which subsequent effects of the action will still impact the environment.

This section should be completely rewritten to reflect the above concerns. There should be less justification and more factual documentation.

SECTION VII, IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES:

This section should be completely rewritten to reflect the above concerns. There should be less justification and more factual documentation.

APPENDIX A:

A land ownership map of the withdrawal area should be prepared to accurately reflect public lands administered by BLM; lands owned/leased and administered by the Department of the Army and U.S. Forest Service; and those private/State lands which are within the withdrawal area of McGregor Range. Acreage totals should agree with those identified in the withdrawal application.

A. 8, C, (1) and (3): The text should contain two separate tables which identify threaten and/or endangered species for both the State of New Mexico and those listed in the Federal Register.

APPENDIX C:

The content of Appendix C is essentially unchanged from that which was criticized during our earlier reviews. The questions identified previously concerning the reliability of the archeological survey are not settled in the statements interim report of the Archeological Reconnaissance Survey (Appendix C). The final survey report should address our previous questions better and, therefore, should be placed in the final statement.



Office of the Director

El Paso Centennial Museum

March 21, 1977

THE MUSEUM OF
The University of Texas at El Paso
EL PASO, TEXAS 79968

Headquarters, Department of the Army
Attn: DAEN-P-E-MPT
Washington, D.C. 20310

Dear Sirs:

Reference Draft Environmental Impact Statement, Land
Use Withdrawal, McGregor Range, Fort Bliss, Texas.

The El Paso Centennial Museum staff is concerned with
that portion of the above EIS relating to cultural and
historical resources. Specifically, we have questions con-
cerning the following points:

1. The cultural and historical resources that are the focus
of this study involve primarily information about human
social systems not just the technological items that can be
recovered and stored in museums. For this reason a great
deal of time must be devoted to the theoretical perspective
upon which the research design is based before initiating
the mitigation activities. It seems that greater stress
could be given this point. | 67

2. It is difficult to evaluate the adequacy of the coverage
of the Range from the description of the archeological
sampling procedure. | 68

3. Nowhere in the report do we find a clearly stated rec-
ommendation (cf.p. III-14-15) that a relatively complete
inventory of cultural and historical resources be obtained
within the near future for management use. Sampling can at
best provide no more than an estimate of the magnitude of
the problem the resource manager faces and the type of en-
vironment in which the resources may be found. The specific
nature and location of the cultural remains can only be
learned from a 100% survey. We agree wholeheartedly with
the recommendation that a professionally qualified archeolo-
gist be added to the Environmental Resources Section at Fort
Bliss to assist in managing the cultural and historical re-
sources. | 69

4. The recommendation in Appendix C (p. C-41) that future maneuvers involving armored vehicles be restricted to the area south of McGregor Range Camp, i.e., to Maneuver Areas I and II, does not take into account the cultural and historical resources that have been found in those areas. In fact, the map designated Figure III (after p. C-34) implies that only five significant sites exist there when in actuality some 2500 sites have been located in the complete surveys of those areas and a number have been, or will be, recommended for nomination to the National Registry of Historic Places. Because Maneuver Areas I and II have been subjected to 100% surveys it will be possible for a manager to plan specified steps to mitigate the loss of those resources and to schedule military use of the areas.

70

Thank you for the opportunity to comment on this Environmental Impact Statement.

Sincerely,


Rex E. Gerald, Ph.D.
Director

cc: Commanding Officer
U.S. Army Air Defense Center
and Fort Bliss
Attn: ATZC-FEU (Mr. Conyers)
El Paso, TX 79916

ARIZONA STATE
UNIVERSITY

DEPARTMENT OF ANTHROPOLOGY

TENIPE, ARIZONA 85281

February 22, 1977

To whom it may concern:

I have reviewed the draft EIS for Land Use Withdrawal, McGregor Range, Fort Bliss, Texas, August 1976, and would like to make the following comments. In general I am pleased to see the Department of the Army considering cultural resources (prehistoric and historic) in the preparation of the EIS. However, in terms of specific aspects of the study several weaknesses are apparent. I am quite surprised that of a total of 379 recorded sites only 22 were considered eligible for nomination to the National Register. This is especially surprising since 27 sites are listed as ceramic village complexes and an additional 148 are listed as complex camps. I would think that a large portion of these sites would qualify under criteria d, properties "that have yielded, or may be likely to yield, information important in prehistory or history." Perhaps, the area should be considered for nomination as an archaeological district rather than on an individual site-by-site basis.

71

As pointed out in the archaeological report in the EIS, there are several methodological problems with the sampling survey. It is difficult to determine whether the problems are derived from archaeological difficulties or are the results of severe limitations (lack of funding, access restrictions, etc.) placed on the archaeologist by the Department of the Army. In any case, I would hope that such problems can be corrected.

72

Even though an attempt was made to justify the inclusion of a small portion of Lincoln National Forest, I felt that the rationale was rather weak. It is difficult to understand why such a relatively small area is really needed. The general benefits to the public of excluding Forest Service lands from the withdrawal seem to considerably outweigh the benefits derived from including Forest Service lands in the McGregor Range.

My final comments concern the provisions for insuring minimal destruction of sites if the withdrawal renewal is approved. I seriously question the feasibility of the procedures and safeguards outlined in the EIS. Will a military post commander be responsive to a staff archaeologist, either civilian or military? How will the archaeologist be selected? Is a system of appeals above the post commander level provided? In general, I feel that if the withdrawal is renewed, preservation of archaeological resources will be largely a matter of luck, a situation virtually identical to that of the previous withdrawal period.

73

Feb. 22, 1977
page 2

I certainly appreciate the opportunity to comment on this EIS. Although I disagree significantly with portions of the document, it is encouraging to see the Department of the Army undertake such a detailed study.

Sincerely,

Donald E. Weaver, Jr.

Donald E. Weaver, Jr.
Director
Office of Cultural Resource
Management

DEW:sb

Headquarters, Dept. of the Army
Attn: DAEN-P-MPT

21 Feb 77

To whom it may concern:

I have read the Draft Environmental Impact Statement titled Land Use Withdrawal, McGregor Range, Fort Bliss, Texas prepared by the Training Department of Army and have a few general comments I should like to make. Specific points of issue might also be raised and are available if considered necessary. My comments are based upon careful reading of the EIS, its appended technical reports, a personal familiarity with Texas prehistory, and both prior military and archaeological experience at Fort Hood military reservation in central Texas.

Overall, I believe this EIS fails to substantially justify Department of Army's determination that the proposed land withdrawal is warranted considering the resulting loss through the destined adverse impact upon a conspicuous wealth of prehistoric and historic cultural resources. Further, renewal of the proposed withdrawal action is in my estimation not consistent with the explicit responsibilities of Federal Agencies which are set forth in Executive Order 11593 and Public Laws 89-655, 91-190 and 93-291. The requirements of 36 CFR 305 (specifically 305.13e and f, 305.16 para. 2 and 3, 305.15 c and 305.15f) seem also to be violated, despite the fact that these agency guidelines were established by the Department of Defense specifically for the identification of cultural resources under its immediate jurisdiction.

74

My major criticism of the EIS is that it demonstrates a greatly underestimated appreciation/evaluation of the probable cultural resource base of the McGregor Range. Although the determination of significance may remain debatable when individual cultural resources are under consideration, the appended archaeological report clearly documents the archaeological and historic importance of this particular property. It is clear from the information provided in the appended report that an overall total of about 2700 sites probably exist in this territory as minimal figure, of which at least 325 are eligible for the National Register of Historic Places. This statement can be made even though the intensity level and the nonrandomness of the requested archaeological reconnaissance survey was not sufficient to accurately estimate the number and variety of sites which may prove identifiable under more optimal survey conditions. In any case, the condition and scientific importance of the sites already located through the efforts of the Balcones Research Center of Austin alone warrant exclusion of the area from such military impacts as those discussed in sections 102a, 3.17a-c, and C IV 1-3 of the report.

75

The measures recommended by the US Army to mitigate the adverse effects of their anticipated acquisition of the McGregor Range appear unrealistic, given the esoteric mission at Fort Bliss, the quantity and importance of the sites to be destroyed, and the otherwise monumental task of insuring the degree of preservation and/or conservation of the archaeological resources involved. Accordingly, I suggest that instead of acceptance of the proposed land withdrawal, great priority be given to selection of a more suitable range for missile firing and concomitant surface maneuvers.

James B. Rodgers
James B. Rodgers



COAS PUBLISHING and RESEARCH

P. O. BOX 301
LAS CRUCES, NEW MEXICO 88003

March 18, 1977

Headquarters
Department of the Army
Attn: DAPE-MFT
Washington, D. C. 20310

Gentlemen:

The following are my comments on the Draft Environmental Impact Statement of the "Land Use Withdrawal McGregor Range Fort Eliss, Texas." These comments are based solely on the archaeological and historical impact of the land use withdrawal.

The impact statement continually refers to the 379 sites of aboriginal origin. Of these 379 sites, only 22 archaeological sites are considered eligible to the National Register (Table 6; C-33), and 26 are probably considered eligible (Table 7; C-34). What happened to the other 331 sites? All sites are of potential National Register quality and it is not up to the archaeologist to make that determination. That determination is only made by the Office of Archeology and Historic Preservation, National Park Service, Washington, D. C.

Page III-15 states: "(E) Preserve and protect those cultural resources identified as having potential National Register eligibility". This statement should apply to all recorded sites and not just those mentioned on pages C-33 and C-34.

Paragraph 4 on page C-32 is unclear; it states: "Four sites of Late Historic age..." and then lists only three sites. The following paragraph suggests that Oliver Lee's Pipeline be considered for listing on the National Registry of Engineering Sites; is this the fourth? Or another type of site?

There is no reference made to specific site locations or description. An archaeological assessment of the surveyed area by another archaeologist is almost impossible without specific site data or locations.

Sites were given temporary site numbers and it is stated on page C-33 that permanent designations will be assigned by the Laboratory of Anthropology, Santa Fe. The permanent designations (LA Numbers) can only be assigned if the contracting institution sends in site survey forms listing location, site type, etc. to the Laboratory of Anthropology. As of 3/18/77, almost a year after the survey, these sites are still unrecorded in the Depository at the Laboratory of Anthropology. Thus, pertinent information for interpretation by other archaeologists is not available within the state.

Headquarters, Department of the Army
Attn: DAPE-MPT
March 18, 1977
Page 2

The non-random sampling (C-9) of the area does not lend itself to the statement (V-2) "The survey results indicate that the greatest concentration of archaeological sites is located...desert low lands of the Central Range." | 81

The sites located in the desert low lands should be more visible for several reasons. The majority reported are late in time (ceramic) and soil deposition has not been as rapid in the low lands as near the mountains where alluvial fans and sheetwash have built up soil deposits at a more rapid rate, covering some sites.

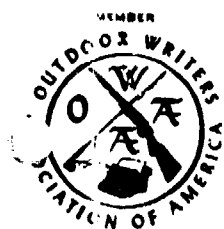
I would hope that the sampling base was adequate and large enough in order to make the predicative statement. The survey was non-random and the results could be skewed.

Thank you for your cooperation. If I can be of any assistance in the future, please feel free to ask.

Sincerely,

Patrick H. Beckett
Director

bb



STANLEY E. GREEN

R. R. # 1 - BOX 2488

505-437-4472

LALUZ, NEW MEXICO

88337

"The Greenhorn"



Headquarters, Department of the Army
Attn: DAPE-MPT
Washington, D.C. 20310

Dear Sir:

Your Draft Environmental Impact Statement, Land Use Withdrawal, McGregor Range, Ft. Bliss, Texas, has been reviewed and I wish to bring up the following comments.

Hunting for big game including deer and antelope would be greatly affected should this move become a reality. We have some of the finest quail and dove habitat in Otero County located on the north end of McGregor Range.

It is a known fact that recreation is one of the top three means of bringing money into New Mexico when considering renewable resources.

Therefore of the proposed alternates, I would prefer "D" and would recommend that all of the area north of Highway 506 be excluded from withdrawal.

82

This would enhance the opportunities for the average sportsman to get in a few hours hunting or hiking or bird watching. Such opportunities are rapidly being eliminated in New Mexico as subdivisions, roads and other improvements are built.

Further, I would ask that the New Mexico Game and Fish Department have full control over the wildlife in the areas being discussed. As an outdoor writer and a sportsman, I have had numerous calls from frustrated sportsmen who thought they were abiding fully by the law only to be told by MPs or other military personnel they were in the wrong.

Sincerely,

Stan Green—"The Greenhorn"

X-59

Route 4, Box 123-A
Los Lunas, New Mexico 87031

March 18, 1977

Commanding Officer
Headquarters, Department of
the Army
Attn: DAPE-MPT
Washington, D. C. 20310

Dear Sir:

The following comments on the Draft Environmental Impact Statement covering Land Use Withdrawal, McGregor Range, New Mexico, are sent by the New Mexico Section, Society for Range Management.

The thoroughness of many of the studies which support this statement and their scope were impressive. We did note, however, that several alternatives as well as several activities were treated rather briefly and superficially.

The New Mexico Chapter, Society for Range Management, believes that alternative d, "Renew the withdrawal without Forest Service lands" would best serve the domestic livestock, wildlife and recreation interests and at the same time protect the essential requirements of the Department of Defense. On the basis of the Impact Statement, there appears to be no reason for withdrawal of National Forest land for the purpose intended. The public would have greater freedom and access to their National Forests if the area were not formally withdrawn. Any needed restrictions, which according to the report would be minor and exclusively associated with days of firing, could be handled through an interagency agreement. We therefore recommend that this alternative be given serious consideration.

83

If the selection of alternative d would, for reasons not apparent in the statement, be unacceptable, we recommend alternative a, "Renew the withdrawal as presently exists with BLM and Forest Service cooperative management."

Under both options, we would emphasize the need to allow the involved public land managing agencies as much freedom as possible in exercising their responsibilities for non-defense activities in the withdrawn lands. The Army and the land management agencies involved should make a thorough

84

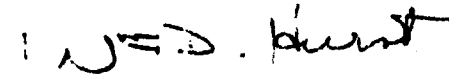
-2-

review of the existing agreements and memorandums of understanding, update them where needed, and then adhere strictly to their terms for both defense and non-defense activities.

84

We appreciate the opportunity to comment upon this statement.

Sincerely,



Wm. D. Hurst, Chairman
Public Affairs Committee
New Mexico Chapter
Society for Range Management



Prairie Dawgs M/C

P.O. Box 1192
Alamogordo, New Mexico 88310

Headquarters, Dept. of the Army
Attn: DAPE-MPT
Washington, DC 20310

March 8, 1977

Dear Sirs:

Your environmental analysis of the McGregor Range withdrawal appears most complete and we take no issue with it.

However, we would make three requests:

1. That an area east of US-54 in the secondary danger zone be left in BLM care for off road vehicle use. This area would be bounded on the west by US-54 and by a line on the east drawn from Orogrande to where the range boundary intersects the west boundary of the Lincoln N.F. .
2. That the Lincoln N.F. lands be excluded from the withdrawal.
3. That public hunting be allowed to a greater extent than mentioned in section A-12.

85

86

We look forward to attending the public meeting on this issue.

Sincerely,

Gary A. Mick

Gary A. Mick
Secretary
Prairie Dawgs M/C

The Wilderness Society

P.O. Box 38, Glenwood, New Mexico 88039
(505) 539-2845
Southwest Regional Representative
New Mexico • Arizona • West Texas

February 2, 1977

Director of Facilities & Engineering
US Army Corps of Engineers
Ft. Bliss, Texas 79916

Dear sir

I understand from the Federal Register that the Army is proposing a withdrawal of McGregor Range -- including a portion of the Lincoln National Forest south of Alamogordo.

This is a major Federal action and an environmental impact statement should be prepared and a public meeting held. Please send me a copy of the draft EIS.

A major concern of ours is that part of proposed withdrawal would include a portion of the Sacramento Escarpment Roadless Area which conservationists in New Mexico have proposed for Wilderness designation. This facet of the issue should be carefully considered in the EIS.

87

I would appreciate your early reply.

Sincerely


Dave Foreman
Southwest Representative

cc: Senator Pete Domenici
Representative Harold Runnels

56-21-10
1-6
57



DEPARTMENT OF THE ARMY
HEADQUARTERS US ARMY AIR DEFENSE CENTER AND FORT BLISS
FORT BLISS, TEXAS 79916

ATZC-FEE

Mr. Dave Foreman
Southwest Representative
Wilderness Society
P.O. Box 38
Glenwood, New Mexico 88039

Dear Mr. Foreman:

Your letter of 2 February 1977, addressed to Mr. Sloan of the Bureau of Land Management and pertaining to the McGregor Range Withdrawal, was forwarded to the Forest Service who, in turn, forwarded it to me for reply. I am happy for this afforded opportunity to consider your concerns and to answer your questions.

In reply to your letter, please let me first make it clear. that the proposed withdrawal is not the initial withdrawal. The Army has been using 18,000 acres of the Lincoln National Forest for the past twenty years under a similar withdrawal. I would like to bring to your attention that the pristine integrity of these lands has been preserved under Army stewardship to the extent that their present condition is such that they are now being considered for wilderness recommendation. I think this underscores the Army's concern for environmental protection.

With regard to the proposed withdrawal, I can assure you that insofar as the Army is concerned, it will not result in the removal of any of the 18,000 acres of the Lincoln National Forest from possible wilderness consideration. The Army stated use for this Lincoln National Forest portion of McGregor Range is for a secondary danger zone of a missile firing range and Special Forces exercises. Vehicles, except for those needed for emergencies and range management, will not enter the area. These uses, I feel, are consistent with

Reading file (16 Mar 77)

ATZC-FEE
Mr. Dave Foreman

wilderness preservation.

In answer to your questions concerning management and public use, I refer you to Appendix D of the McGregor Range Environmental Impact Statement. This appendix contains the Memo-randum of Understanding between the Department of Defense and the Department of Agriculture which spells out management responsibilities. In short, these responsibilities break out as follows: While military missions are in progress on McGregor Range, the Army exercises total control of the range; during other periods, management of the 18,000 acres of the Lincoln National Forest, including all natural resource management, is the responsibility of the Forest Service.

Thank you for your interest in this matter. If I can be of further service, please let me know.

Sincerely,

RAY S. HANSEN
Colonel, General Staff
Director of Facilities Engineering

The Wilderness Society

P.O. Box 38, Glenwood, New Mexico 88039
(505) 539-2645
Southwest Regional Representative
New Mexico • Arizona • West Texas

April 7, 1977

Ray S. Hansen
Colonel, General Staff
Director of Facilities Engineering
Fort Bliss, Texas 79916

Dear Col. Hansen

Thank you for your letter regarding the informal public meeting on the McGregor Range Draft EIS.

Because of other commitments, I will not be able to attend the meeting.

As I've mentioned before, our major concern is the protection of the Sacramento Redless Area in the Lincoln National Forest, part of which is included in the withdrawal. Since the withdrawal will offer no conflict to possible wilderness consideration of this area, The Wilderness Society has no objection to the proposed withdrawal.

Indeed, it appears that the withdrawal will offer added protection to the wilderness values of this area.

Thank you for this opportunity to comment.

Sincerely



Dave Foreman
Southwest Representative

RESPONSES TO COMMENTS

Texas Historical Commission

1. Concur. The requirements of 36 CFR 800 will be observed.
2. A copy of the final report will be supplied.

State of New Mexico Planning Office

3. The omission has been corrected.
4. The several comments are interpreted to be representative of a legitimate concern with the absence of a professional Cultural Resources Management (CRM) program at Fort Bliss. A professional archeologist has been hired recently to develop and manage a CRM program at Fort Bliss, and he will work closely with the State Historical Preservation Officer (SHPO) of New Mexico to develop the program and to resolve the several issues raised here as well as those that will occur in the future.
5. Such an occurrence should not happen in the future since requirements of USAADCENFB Supplement 1 to AR 200-1, Environmental Protection and Enhancement, dated 24 February 1977, will be followed. These requirements provide that archeological clearances be obtained from the Director of Facilities Engineering prior to undertaking actions that have the potential of destroying, damaging, or disturbing archeological resources. Examples of such actions are: (a) any construction activity involving surficial disturbances, such as blading, scraping, excavating, etc.; (b) designation or creation of new firing ranges or impact areas; and (c) any training involving surface use of areas where previous uses by the Army did not include surface uses (applies to portions of McGregor Range).

State of New Mexico, Department of Game and Fish

6. The information has been included.
7. The suggested changes have been made.
8. The suggested changes have been made.
9. The Department of the Army has requested the withdrawal of these lands to meet assigned missile training missions.
10. The harlequin quail is listed as endangered and the golden eagle and prairie falcon are listed as threatened by the Texas Organization for Endangered Species (the prairie falcon was previously listed on the Texas state list as threatened). Since McGregor Range abuts Texas, we will structure our management program to extend protection

to those species until determination of the population parameters and the relationships between New Mexico and Texas populations are better understood. We concur that black hawks, broad-billed hummingbirds, and blue-throated hummingbirds probably do not occur on McGregor Range. Changes in the text have been made.

11. The four major species of sparrows as listed in the report have been verified.

12. Concur. Paragraph content has been amended.

13. A misidentification was probably made; accordingly, the text has been amended.

14. The statements referring to "wolves" should have been qualified as questionable. However, in view of the recent presence of C. lupus in the Big Bend and Alpine areas of Texas, it is felt the sightings should nevertheless be retained.

15. Concur with the first two species; for the sparrows, see response No. 11.

16. Concur in part; some are confirmed sightings and are retained. Misidentifications are deleted.

Advisory Council on Historic Preservation

17. See response by the Department of the Army, page X-32.

Forest Service

18. The description in the Federal Register is to be taken as the accurate one.

19. See responses Nos. 6-16.

20. Concur in part. Recreational opportunities will be limited due to national defense needs. However, total elimination of recreational opportunities is not proposed. (Reference appendix D to draft EIS, page D-28, Section A, paragraphs 2 and 5; page D-30, Section B, paragraph 2; and page D-32, Section C, paragraph 34.)

21. Military missions within the proposed inventoried Sacramento Roadless Area will be conducted in such a manner that they will not conflict with this designation.

22. The Department of the Army's interest in these lands is solely for national defense purposes. Regulation of nondefense-related activities is subject to the provisions of the Memorandum of Understanding between the US Department of Agriculture, Forest Service, and the Department of the Army, Corps of Engineers, page D-27.

23. Concur.

24. Concur.

25. Using White Sands Missile Range was considered, but was determined to be unfeasible because the range is fully committed and scheduled for research and development activities. Moreover, the range does not contain facilities capable of supporting the proposed training missions.

26. The Forest Service lands comprising a portion of the McGregor Missile Range are needed to support missile firing missions. True, Forest Service lands lie in the secondary danger zone. This zone, however, is an integral part of the missile range and is just as important as any other portion of the range. There is documentary evidence that target missile debris lies in the area.

27. This installation needs jurisdiction over these lands to insure that defense missions are executed as scheduled by higher authority. In the interest of national defense the Army must have the unrestricted authority to schedule the use of the range; the Army cannot afford to place expensive units in a "standby" status while the range is being cleared of recreationists.

28. The legislation is currently under revision.

United States Department of Commerce

29. It is acknowledged that the environmental studies did not address any potential impact from high altitude rockets. A literature search was conducted to determine what information existed concerning pollution impact from rockets and what potential emissions would result from the particular rockets fired at McGregor Range. It was felt that such a study would not only be impractical but technically unfeasible. Such a study would not only require devising a means of quantifying rocket exhaust during flight but also trying to quantify the myriad of compounds in the surrounding atmosphere and hypothesizing the possible chemical reactions that might result. The special analyses that were conducted, especially lead, were oriented toward chemical species present in the rocket fuels. In addition, the quantity of pollutants emitted from the rocket testing should be small when compared to the emissions from other sources (such as commercial aircraft which fly adjacent to the range) due to the intermittent firing schedule and limited rocket fuel quantities.

30. It is inappropriate to base a discussion on proposed regulations. The proposed regulations deal directly with underground waste disposal through wells; pits, ponds, lagoons, etc. are only mentioned as subjects of an inventory and assessment, with a view toward possible

future regulation. To speculate on the particulars of such future regulation is also inappropriate. Aside from the merits of the proposed regulations, the discussion of groundwater pollution potential of waste disposal practices (appendix A, pages A-3-3 and A-3-4, Draft EIS, Land Use Withdrawal, McGregor Range, Fort Bliss, Texas) appears both adequate and sound.

31. Addressing the possibility of future land use plans or policies is inadvisable because it is only a matter of conjecture.

32. Changes have been made.

United States Department of the Interior

33. Due to the absence of any indepth studies of the area, quantification cannot be made at this time. However, studies aimed at determining biotic baseline data and determining the effects of Army activities on these resources are being initiated. These studies will make extensive uses of ground survey and remote sensing techniques. The conduct of activities having the potential to damage biotic resources, such as maneuvers, will be supported by these studies.

34. Sections III and IV have been expanded to address the comments. Sections listing endangered species have been updated.

35. We judge the discussion and presentation of alternatives to be adequate.

36. Concur.

37. The final statement has been amended as suggested.

38. Appropriate changes have been made.

39. Text has been amended.

40. Changes have been made.

41. Concur in comment. Legislation prepared by the Department of the Interior will be substituted when finalized.

42. Table has been amended.

43. See response No. 41.

44. Changes have been made.

45. Change has been made.

46. Listings have been added to appendix A.

47. Concur. A census will be taken of the prairie dog towns (20 acres or more) with the cooperation of the Bureau of Land Management, Las Cruces.
48. The source of information has been inserted in the text. Concur with comment relative to survey.
49. Impacts are discussed in Section III, Probable Impact of the Proposed Action on the Environment.
50. Text has been corrected.
51. Concur. Paragraph has been deleted.
52. Concur, but quantification of impact is not yet possible with present technology.
53. Text has been amended.
54. Text has been changed.
55. Concur. Text has been amended.
56. Text has been amended.
57. Text has been amended.
58. Text has been amended.
59. Mitigating measures apply to all actions as applicable.
60. See response No. 26 and revised text.
61. See Section III, paragraph (8).
62. Section has been revised.
63. Section has been modified.
64. This information is included throughout the text.
65. A list has been added to appendix A.
66. Content has been amended where possible. Statistical reliability of completed survey cannot be enhanced; however, future surveys will provide data of more statistical usefulness.

The El Paso Centennial Museum

67. Concur. See page III-14 (3)(a).

68. Concur. See response No. 66.

69. See page III-14 (3)(b). A professional archeological methodology will be employed in the implementation of all future survey and mitigation activities.

70. The Cultural Resources Management program will place a high priority on the identification of resources and the mitigation of adverse impacts in the maneuver areas.

Arizona State University

71. Cultural Resource Management program will be coordinated with SHPO, New Mexico (and SHPO of Texas), the Department of the Interior, and other agencies involved in CRM programs to insure compliance with 36 CFR 60, 36 CFR 800, and other applicable legislation.

72. Concur. See response No. 66.

73. The Department of the Army, Training and Doctrine Command (TRADOC), and Fort Bliss are committed to the mitigation policies outlined on pages III-14 and III-15. We think the expressed pessimism is unwarranted.

Individual, James B. Rogers

74. We do not agree with this appraisal.

75. See response No. 71.

COAS Publishing and Research

76. See response No. 71.

77. See response No. 71.

78. Clarification has been made in the text.

79. Concur. Data will be made available to professional archeologists.

80. Site records will be supplied to the Laboratory of Anthropology in Santa Fe.

81. Concur. See response No. 66.

Individual, Stanley E. Green

82. See responses Nos. 26 and 27.

Society for Range Management

83. See responses Nos. 26 and 27.

84. We agree.

Prairie Dawgs M/C

85. See responses Nos. 26 and 27.

86. Refer to New Mexico Game and Fish hunting proclamations.

Wilderness Society

87. See letters on pages X-64, X-65, and X-66.